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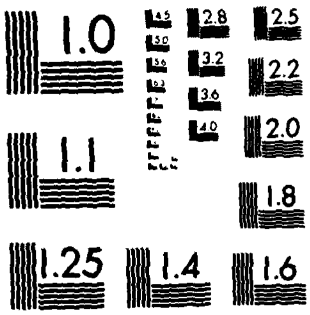
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2.8
2.5
3.2
2.2
3.6
2.0
4.0
1.1
1.8
1.25
1.4
1.6

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(12)

An Experimental Study of Dynamic Stall on Advanced Airfoil Sections Volume 2. Pressure and Force Data

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SYMBOLS

c	airfoil chord, m
C_D	drag coefficient derived from surface pressures, drag/qcs
C_L	lift coefficient derived from surface pressures, lift/qcs
C_M	moment coefficient derived from surface pressures, moment/qc^2s
C_p	pressure coefficient, $(p - p_\infty)/q$
k	reduced frequency, $\omega c/2U_\infty$
M	Mach number
p	surface pressure, N/m^2
p_∞	free-stream static pressure, N/m^2
p_T	free-stream total pressure, N/m^2
q	free-stream dynamic pressure, N/m^2
Re	Reynolds number based on chord and free-stream conditions
s	airfoil span, m
t	time, sec
U_∞	free-stream velocity, m/sec
x	chordwise coordinate, m
y	normal coordinate, m
α	airfoil incidence, deg
α_o	mean angle of oscillation, deg
α_1	amplitude of oscillation, deg
ζ	aerodynamic pitch damping coefficient, $-\frac{1}{4\alpha_1^2}\oint C_M \, d\alpha$
ω	circular frequency, rad/sec

AN EXPERIMENTAL STUDY OF DYNAMIC STALL ON ADVANCED AIRFOIL SECTIONS

VOLUME 2. PRESSURE AND FORCE DATA

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SUMMARY

Experimentally derived force and moment data are presented for eight airfoil sections that were tested at fixed and varying incidence in a subsonic two-dimensional stream. Airfoil incidence was varied through sinusoidal oscillations in pitch over a wide range of amplitude and frequency. The surface pressure distribution, as well as the lift, drag, and pitching moment derived therefrom, are displayed in a uniform fashion to delineate the static and dynamic characteristics of each airfoil both in and out of stall.

INTRODUCTION

The experiment reported in these volumes was undertaken to investigate the effects of airfoil geometry and free-stream Mach number on the phenomenon of dynamic stall. The experiment and its principal results are summarized in volume 1 (Summary of the Experiment), and boundary-layer transition, flow reversal, and reattachment results are presented in volume 3 (Hot-Wire and Hot-Film Measurements). Pressure, force, and moment data are contained in this volume.

Eight airfoil profiles, consisting of a NACA 0012 section, six rotor-blade sections, and a fixed-wing supercritical section (fig. 1 and tables 1-4), were tested at both fixed incidence and varying incidence, $\alpha = \alpha_0 + \alpha_1 \sin \omega t$, over a range of Mach numbers to 0.30. Because the intention was to fulfill the requirement for a data base applicable to the retreating-blade stall problem on helicopter rotors, most of the unsteady data accumulated can be classified as large amplitude (typically $\alpha_1 = 10°$) and at fundamental reduced frequencies (typically $k \leq 0.20$). Although numerous diagnostic techniques were employed during the course of this study, the purpose of the present volume is to describe the pressure reduction phase of the experiment and to present both steady and unsteady results in a uniform graphical format.

DATA ACQUISITION

Although differential pressure measurements (obtained by referencing the upper surface to the lower surface at the same chord location) would have sufficed for deriving the normal force and pitching moment on the airfoil, single surface-pressure measurements were preferred because (1) they provided a more difinitive observation of the formation and passage of the stall vortex over the upper surface of the airfoil and (2) they enabled the calculation of chord force (due to pressure only) and, later, the construction of lift and drag forces. These two considerations, in turn, strongly influenced the distribution of the pressure transducers around the airfoil (fig. 2 and table 5).

In all, 30 quantities were recorded in analog form on magnetic tape. These consisted of (1) airfoil incidence, α, (2) tunnel dynamic pressure, $p_T - p_\infty$, (3) airfoil surface pressures, p1 through p26, (4) 200/rev pulse train synchronous with ωt, and (5) 1/rev pulse synchronous with the beginning of each cycle of airfoil oscillation. The total pressure, p_T, was essentially invariant during the course of any given test case, and was therefore recorded by hand in the test log. Other quantities that originally appeared in the test log include (1) airfoil designation code; (2) type code for identifying the data as relating to reference voltage, amplifier gain, transducer calibration, reference zero, steady test data, or unsteady test data; (3) frequency, mean angle, and amplitude of oscillation; (4) free-stream and model-core temperatures; and (5) the real time at the beginning of each data frame. This information was later appended to the test data during the analog-to-digital conversion phase of the data reduction.

All analog signals were conditioned by amplifiers and recorded on a 32-channel magnetic tape machine at a tape speed of 0.4 m/sec. Approximately 65 analog tapes were required for the entire experiment. Because of the large quantity of data to be acquired and the impracticality of reviewing a test recording before proceeding to the next case, certain standards were adopted. At the discretion of the test engineer, transducers were mechanically exercised and allowed to reach the mean environmental temperature by operating the tunnel and airfoil at the test condition of interest. This pre-run rehearsal provided an opportunity not only for identifying anomolous transducer responses, but also for adjusting the gains for maximum output voltages in order to maximize the signal-to-noise ratio. The tunnel and airfoil were then brought to rest so that transducer signals could be rebalanced to near-zero output voltage. If the gain of any amplifier needed to be changed, all channels were switched to sense a fixed reference voltage and a brief recording made on analog tape. From this record the corresponding gains could be inferred and properly accounted for during the data-reduction phase.

Another practice, considered of equal importance, was to obtain zero-flow records on a frequent basis. Careful calibrations before the experiment indicated that acceptable transducer drifts due to time and temperature could be bounded by allowing no more than 20 min or a change of 1°F between zero records. Although individual transducer temperatures were not monitored, the model-core temperature was taken to be representative for the purpose of scheduling a zero record.

A standard procedure was also adopted for configuring data on magnetic tape so that each tape could be independently processed as well as reduced in an automatic fashion. These two requirements led to the following test procedures:

1. Initialize each tape with recordings of an electrical short and ±1 V references

2. Record transducer gain evaluation voltages

3. Record prescribed sequence of pressure transducer calibrations

4. Record transducer gain evaluation voltages (if changed) before test cases

5. Record zero-flow signals before test cases (initial zero)

6. Record test cases

7. Record zero-flow signals following test cases (final zero)

8. Repeat (4) through (7) until near the end of the tape

9. Repeat (2) and (3) at the end of the tape

The technique used for systematically subjecting the transducers to given pressure levels is shown in figure 3. Shop air was used to continuously supply a tank to which six pressure regulators were attached. The regulators were preset to pressures of 0.3, 0.6, 1.0, 2.0, 3.0, and 5.0 psig. These six pressures, along with that from the tunnel pitot probe, were used as the pressure references for the test. By selecting any one of these seven pressure sources, the reference side of all pressure transducers in the model could be simultaneously exposed to either a calibration pressure or to the tunnel total-pressure. By using positive gage pressures for calibration references, the transducer diaphragms were deformed in the same direction as when the airfoil-surface sides of the transducers were exposed to suctions during a test run. This procedure eliminated the need for calibrating through zero pressure. A detailed estimation of the uncertainty and accuracy of the pressure measurements is given in volume 1.

DATA REDUCTION

The first step in the data reduction process was the conversion of analog data to digital form. This required that each frame of data be replayed in real time, digitized using the 200/rev and 1/rev synchronizing signals, and stored on a digital tape. It was during this latter step that various test parameters recorded by hand in the log were coded and appended to each corresponding frame of data. A hardware incompatibility prevented the digitizer from responding to the 200/rev signal directly, and a synthetic pulse train based on this signal had to be substituted. Since the computed period for the synthetic signal was dependent on the period of the test data just completed on the analog tape, a slight fluctuation from cycle to cycle during the original recording of unsteady data sometimes resulted in a slightly incorrect synthetic period. As a result, ensemble averages of the digital data would correspond to specific values of ωt only in the mean, and the resulting periods would either fall short or go beyond the correct completion of the cycle. In order to render the data more amenable to analysis, it was decided that the unsteady data would be interpolated and reordered (to begin at mean angle) during the final stage of reduction. As explained in volume 1, the final data appear at convenient increments, but suffer an effective "smearing" that at worst would be equivalent to having sampled at a rate of 100 points per cycle instead of 200 points per cycle.

Once the data were placed on digital tape, they were transferred to a more versatile computer where (1) the unsteady data were ensemble-averaged, (2) the gain factors were divided out, (3) the time-averaged zero-flow values were calculated and subtracted, and (4) the calibrations were applied to scale the data to coefficient form. After imposing a Mach number correction to the pitot-static measurement, the instantaneous value of the dynamic pressure was used to calculate the pressure coefficients.

Airloads were computed using a simple trapezoidal rule integration around the airfoil. Since the pressure was not actually measured at the trailing edge, a value was calculated based on the average between upper and lower surface extrapolations from neighboring points. Curve-fitting the data was not attempted because of the possibility of irregular results as the vortex passed over the rear of the airfoil where transducers were relatively far apart.

The pressure was integrated over x to give the normal force and over y to give the chord force. Given the airfoil incidence, the normal and chord forces were used to calculate the lift and drag forces. Although the chord force contributes little to the pitching moment, its effect was included for completeness. Since viscous forces were not measured, the calculated chord force is incomplete, and hence the lift and drag forces must be regarded as approximate. This approximation is considered good, however, under conditions of unsteady large-amplitude motion where pressure forces are dominant. On the other extreme, the steady-flow drag data at low incidence should be interpreted with caution.

DATA PRESENTATION

Both steady and unsteady data have been graphically displayed (figs. 4-19) in a uniform format to facilitate comparison between cases. The axes scales for the lift, drag, and pitching-moment coefficients have been fixed. All unsteady cases have been plotted against ωt (beginning at minimum incidence) to more clearly show the resulting loads around maximum incidence. The unsteady loops that are created when the data are plotted against α have been divided into two parts, the solid portion corresponding to $\dot{\alpha} > 0$, and the dashed portion corresponding to $\dot{\alpha} < 0$. The dotted line appearing in the lift versus incidence plots represents an approximation of the quasi-static lift behavior at low incidence for the given flow condition (see vol. 1).

To simplify the presentation of pressure, the sign of the coefficient has been changed, the lower-surface values have been suppressed, and the upper-surface values skewed over time in a carpet fashion. The pressures at each x/c have been connected by a straight line and the leading-edge pressure has been identified by a bold-appearing dot. The first curve shows the pressure distribution at minimum incidence, and the succeeding curves correspond to equal increments in time ($\omega t = 18°$) over one full cycle of airfoil oscillation. The scale of the ordinate is either 10 or 20, depending on the range of pressures to be displayed. The symbol * appearing on the ordinate denotes the sonic pressure corresponding to the free-stream Mach number for that test case. A number of quantities characterizing a particular unsteady case have been included on each display. These are

1. Airfoil name and frame number
2. Average Reynolds number
3. Maximum lift force and the angle at which it occurs
4. Angle at which the minimum chord force occurs
5. Mean angle and amplitude of oscillation
6. Minimum value of pitching moment
7. Pitch-damping coefficient
8. Maximum suction detected during the cycle
9. Reduced frequency of oscillation
10. Free-stream Mach number

11. Maximum pressure drag

12. Maximum local Mach number based on minimum pressure, and the angle at which it occurs.

In the case of the steady-data displays, dashed lines denote data points reached from a stalled condition. The pressure distribution covers both upper and lower surface and corresponds to that obtained just before stall. References to the data, either by frame number (ordered according to their position of an archival tape) or test condition, are given in tables 6 to 19. Test cases for numerical analysis are shown in table 20.

All of the data presented in this volume have been archived on magnetic tape, according to airfoil. Although NASA is not responsible for the data, these data can be obtained by submitting a written request to the Computer Documentation Service, Ames Research Center, NASA, Moffett Field, California 94035. Archived data tape numbers for the eight airfoils are shown in table 21. The magnetic tapes were written in a widely compatible format, the attributes for which are given in table 22. The organization and format of the data on magnetic tape are given in the appendix, along with a definition of the argument symbols.

APPENDIX

PROGRAM FOR READING DATA TAPES ON THE CDC 7600 COMPUTER

```
      SUBROUTINE RECALL (FRAME,INIT,LIST,INUNIT,LSUNIT,ID,X,Y,NPTS,TRIP,
     1 ALPHAO,ALPHAI,AVEQ,AVEM,REC,RF,FREQ,NPARTS,ALPHA,Q,CP,CL,CD,CM,
     2 PT,ERR)
C
C
C        Module Name:      RECALL
C        Author:           Ken McAlister
C        Date:             February 1981
C        Modificatons:     July 1981 by Steve Pucci
C                          December 1981 by Steve Pucci
C        Purpose:          This routine was designed to read one data frame
C                          from the data tapes produced from the 1979 oscillating
C                          airfoil experiment.
C        Inputs:           FRAME : The identifying number of the frame desired.
C                                  If this number is input as zero, the next frame
C                                  on the tape will be read.
C                          INIT  : If true, the subroutine will read off the
C                                  initial data on the tape.  For the normal
C                                  airfoil tapes, this should be set to true for
C                                  the first frame read from the tape, and false
C                                  for all others.  For the special tape generated
C                                  for the AIAA paper 81-0051, this should be set
C                                  to true for all frames.
C                          LIST  : If true, the subroutine will write a summary of
C                                  the frame read.
C                          INUNIT: The unit number associated with the tape to be
C                                  read.
C                          LSUNIT: The unit number associated with the listing, if
C                                  one is desired.
C
C        Outputs:          ID    : The name of the airfoil tested in the data
C                                  frame.  Note that this, the following two
C                                  arrays X and Y, and the value of NPTS are
C                                  only changed in the subroutine if the input
C                                  parameter INIT has been set to true (see
C                                  Inputs, above).
C                          X,Y   : The coordinates of the pressure transducers,
C                                  normalized by the chord length, where 0,0 is
C                                  at the leading edge of the airfoil.
C                          NPTS  : The length of the X,Y arrays, and the number
C                                  of pressure transducers.
C                          TRIP  : This parameter is set to true if a boundary
C                                  layer trip is present on the airfoil tested.
C                          ALPHAO: The mean angle of attack of the airfoil, in
C                                  degrees.
C                          ALPHAI: The amplitude of the angle of attack oscilla-
C                                  tion of the airfoil, also in degrees.
C                          AVEQ  : Average free-stream dynamic pressure, in PSI.
C                          AVEM  : Average free-stream Mach number.
```

```
C                        REC    : Average Reynolds number based on chord.
C                        RF     : Reduced frequency of oscillation.
C                        FREQ   : Frequency of oscillation, Hz.
C                        NPARTS: Number of time increments describing data.
C                        ALPHA : Instantaneous airfoil angle of attack, degrees:
C                                 Vector of length NPARTS.
C                        Q      : Instantaneous free-stream dynamic pressure,PSI:
C                                 Vector of length NPARTS.
C                        CP     : Instantaneous surface pressure coefficient:
C                                 Matrix of length (NPARTS,NPTS).
C                        CL     : Instantaneous lift coefficient;
C                                 Vector of length NPARTS.
C                        CD     : Instantaneous drag coefficient:
C                                 Vector of length NPARTS.
C                        CM     : Instantaneous moment coefficient:
C                                 Vector of length NPARTS.
C                        PT     : Total pressure, PSI.
C                        ERR    : Returned true if:
C                                 (1)  FRAME was input as zero, and there are no
C                                      more frames on the tape, OR
C                                 (2)  a specific FRAME was input, and that frame
C                                      was not found on the tape.
C                                 If ERR is returned as true, the tape has been
C                                 rewound (but not yet initialized).
C                        FRAME : If a frame has been found, this is its
C                                 identifying number.
C
C
      LOGICAL TRIP,INIT,ERR,LIST
      INTEGER FRAME
C
      DIMENSION X(28),Y(28),ALPHA(200),Q(200),CP(200,28)
      DIMENSION CL(200),CD(200),CM(200),ID(40),WORDS(80)
C
      DATA ITOTLN /45/
C        ITOTLN is the total number of lines that will fit on one page of
C         output.
C
 1000 FORMAT(1X,I5)
 1001 FORMAT(1X,80A1)
 1002 FORMAT(1X,I5,1X,L1,1X,I5,3(1X,E14.7))
 1003 FORMAT(5E14.7)
C
 2000 FORMAT(1H1,32H...BRIEF SUMMARY OF DATA TAPE...,/)
 2001 FORMAT(/7H  FRAME,1X,4HTRIP,3X,4HTYPE,5X,2HA0,9X,2HA1,8X,1HQ,
     1 10X,1HM,6X,2HRE,8X,1HK,8X,4HFREQ)
 2002 FORMAT(2X,I5,2X,L1,3X,8H  STEADY,2X,2(F5.1,4H DEG,2X),F5.3,4H PSI,
     1 2X,F5.3,2X,F8.0,2X,F6.4,2X,F5.2,3H HZ)
 2003 FORMAT(2X,I5,2X,L1,3X,8HUNSTEADY,2X,2(F5.1,4H DEG,2X),F5.3,4H PSI,
     1 2X,F5.3,2X,F8.0,2X,F6.4,2X,F5.2,3H HZ)
 2004 FORMAT(/1X,11HDATA FOR...,80A1)
 2005 FORMAT(/1X,23HTRANSDUCER COORDINATES:/)
 2006 FORMAT(1X,3HNO.,I2,3X,4HX/C=,F10.6,3X,4HY/C=,F10.6)
```

```
 2007 FORMAT(1H1,6H ALPHA,3X,1HQ,3X,13(2X,2HCP,I2,1X),4X,2HCL,
     1              5X,2HCD,5X,2HCM)
 2008 FORMAT(14X,13(2X,2HCP,I2,1X)//)
 2009 FORMAT(2X,F5.1,1X,F5.3,1X,13(F6.2,1X),1X,F6.3,1X,F6.3,2X,F6.4)
 2010 FORMAT(14X,13(F6.2,1X)/)
C
 3000 FORMAT(///5X,13HFRAME NUMBER ,I6,24H  NOT FOUND ON THIS TAPE)
 3001 FORMAT (47H END OF PRIVATE DATA TAPE ENCOUNTERED ON UNIT 1)
C
C
C
      IF (.NOT.INIT) GO TO 100
C...The following section initializes the tape by reading off the header info.
        IF (LIST) WRITE (LSUNIT,2000)
        READ(INUNIT,1000) LINES
        IF(EOF(INUNIT).NE.0) GO TO 9000
        DO 10 N=1,LINES
          READ(INUNIT,1000) NUMBER
          READ(INUNIT,1001) (WORDS(I),I=1,NUMBER)
           IF (LIST) WRITE(LSUNIT,1001) (WORDS(I),I=1,NUMBER)
 10     CONTINUE
        DO 20 N=1,40
          ID(N)=1H
 20     CONTINUE
C...       ( initialize ID array )
        READ(INUNIT,1000) IDLEN
        READ(INUNIT,1001) (ID(I),I=1,IDLEN)
         IF (LIST) WRITE(LSUNIT,2004) (ID(I),I=1,IDLEN)
        READ(INUNIT,1000) NPTS
        READ(INUNIT,1003) (X(I),I=1,NPTS)
        READ(INUNIT,1003) (Y(I),I=1,NPTS)
         IF (LIST) WRITE(LSUNIT,2005)
         IF (LIST) WRITE(LSUNIT,2006) ((I,X(I),Y(I)),I=1,NPTS)
C
 100  CONTINUE
C
        READ(INUNIT,1002) NUMBER,TRIP,NPARTS,ALPHA0,ALPHA1,PT
        IF(EOF(INUNIT).NE.0) GO TO 9000
        READ(INUNIT,1003) AVEQ,AVEM,REC,RF,FREQ
        DO 110 J=1,NPARTS
          READ(INUNIT,1003) ALPHA(J),Q(J),(CP(J,K),K=1,NPTS)
          READ(INUNIT,1003) CL(J),CD(J),CM(J)
 110    CONTINUE
        IF(NUMBER.NE.FRAME.AND.FRAME.NE.0) GO TO 100
C
      FRAME=NUMBER
      ERR=.FALSE.
C
C
      IF(.NOT.LIST) RETURN
C
        WRITE(LSUNIT,2001)
        IF(NPARTS.EQ.1) WRITE(LSUNIT,2002) FRAME,TRIP,ALPHA0,ALPHA1,
```

```
     1    AVEQ,AVEM,REC,RF,FREQ
          IF(NPARTS.NE.1) WRITE(LSUNIT,2003) FRAME,TRIP,ALPHA0,ALPHA1,
     1    AVEQ,AVEM,REC,RF,FREQ
          NCOUNT=1
          ITOTCT = ITOTLN/3 - 1
          DO 200 J=1,NPARTS
            IF(NCOUNT.EQ.1) WRITE(LSUNIT,2007) (K,K=1,13)
            IF(NCOUNT.EQ.1) WRITE(LSUNIT,2008) (K,K=14,26)
            WRITE(LSUNIT,2009) ALPHA(J),Q(J),(CP(J,K),K=1,13),CL(J),CD(J),
     1       CM(J)
            WRITE(LSUNIT,2010) (CP(J,K),K=14,26)
            NCOUNT=NCOUNT+1
            IF(NCOUNT.GT.ITOTCT) NCOUNT=1
 200      CONTINUE
          RETURN
C
C
C...This routine is used when the end of the tape is reached.
 9000 CONTINUE
      ERR = .TRUE.
C
      IF (FRAME.EQ.0) GO TO 600
        WRITE(LSUNIT,3000)FRAME
        REWIND INUNIT
        RETURN
C
 600  WRITE (LSUNIT,3001)
      RETURN
      END
```

TABLE 1.- AIRFOIL COORDINATES: NACA 0012 AND AMES A-01 AIRFOILS

x/c	NACA 0012, y/c		AMES A-01, y/c	
	upper	lower	upper	lower
0.0000	0.00000	0.00000	0.00000	0.00000
0.0005	0.00395	-0.00395	0.00377	-0.00338
0.0010	0.00556	-0.00556	0.00541	-0.00472
0.0020	0.00781	-0.00781	0.00766	-0.00651
0.0035	0.01027	-0.01027	0.01013	-0.00844
0.0050	0.01221	-0.01221	0.01214	-0.00994
0.0065	0.01386	-0.01386	0.01388	-0.01120
0.0080	0.01531	-0.01531	0.01543	-0.01227
0.0100	0.01704	-0.01704	0.01732	-0.01350
0.0125	0.01894	-0.01894	0.01945	-0.01481
0.0160	0.02127	-0.02127	0.02214	-0.01634
0.0200	0.02360	-0.02360	0.02490	-0.01777
0.0250	0.02615	-0.02615	0.02801	-0.01922
0.0350	0.03043	-0.03043	0.03335	-0.02137
0.0500	0.03555	-0.03555	0.03991	-0.02365
0.0650	0.03966	-0.03966	0.04523	-0.02549
0.0800	0.04307	-0.04307	0.04961	-0.02710
0.1000	0.04683	-0.04683	0.05421	-0.02902
0.1250	0.05055	-0.05055	0.05829	-0.03104
0.1500	0.05345	-0.05345	0.06098	-0.03277
0.2000	0.05737	-0.05737	0.06344	-0.03551
0.2500	0.05941	-0.05941	0.06431	-0.03727
0.3000	0.06002	-0.06002	0.06446	-0.03828
0.3500	0.05949	-0.05949	0.06409	-0.03866
0.4000	0.05803	-0.05803	0.06316	-0.03848
0.4500	0.05581	-0.05581	0.06154	-0.03782
0.5000	0.05294	-0.05294	0.05924	-0.03665
0.5500	0.04952	-0.04952	0.05623	-0.03501
0.6000	0.04563	-0.04563	0.05249	-0.03297
0.6500	0.04132	-0.04132	0.04792	-0.03056
0.7000	0.03664	-0.03664	0.04246	-0.02785
0.7500	0.03160	-0.03160	0.03600	-0.02486
0.8000	0.02623	-0.02623	0.02860	-0.02153
0.8500	0.02053	-0.02053	0.02064	-0.01786
0.9000	0.01448	-0.01448	0.01260	-0.01374
0.9250	0.01132	-0.01132	0.00899	-0.01144
0.9500	0.00807	-0.00807	0.00598	-0.00888
0.9750	0.00472	-0.00472	0.00392	-0.00603
0.9900	0.00265	-0.00265	0.00322	-0.00421
1.0000	0.00126	-0.00126	0.00299	-0.00300
	$r_o/c = 0.0158$		$r_o/c = 0.012$	

TABLE 2.- AIRFOIL COORDINATES: WORTMANN FX-098 AND SIKORSKY SC-1095 AIRFOILS

x/c	WORTMANN FX-098, y/c		SIKORSKY SC-1095, y/c	
	upper	lower	upper	lower
0.0000	0.00000	0.00000	0.00000	0.00000
0.0005	0.00293	-0.00249	0.00307	-0.00257
0.0010	0.00426	-0.00343	0.00443	-0.00368
0.0020	0.00619	-0.00471	0.00640	-0.00535
0.0035	0.00837	-0.00609	0.00865	-0.00724
0.0050	0.01017	-0.00717	0.01054	-0.00880
0.0065	0.01175	-0.00807	0.01221	-0.01016
0.0080	0.01319	-0.00886	0.01374	-0.01138
0.0100	0.01494	-0.00978	0.01560	-0.01285
0.0125	0.01692	-0.01079	0.01771	-0.01450
0.0160	0.01944	-0.01202	0.02041	-0.01657
0.0200	0.02204	-0.01321	0.02320	-0.01865
0.0250	0.02501	-0.01451	0.02635	-0.02092
0.0350	0.03021	-0.01664	0.03140	-0.02454
0.0500	0.03681	-0.01913	0.03677	-0.02842
0.0650	0.04234	-0.02111	0.04070	-0.03108
0.0800	0.04705	-0.02277	0.04374	-0.03295
0.1000	0.05222	-0.02464	0.04680	-0.03464
0.1250	0.05714	-0.02658	0.04963	-0.03619
0.1500	0.06073	-0.02819	0.05174	-0.03739
0.2000	0.06491	-0.03059	0.05447	-0.03884
0.2500	0.06650	-0.03198	0.05548	-0.03933
0.3000	0.06630	-0.03251	0.05524	-0.03918
0.3500	0.06515	-0.03242	0.05437	-0.03858
0.4000	0.06336	-0.03184	0.05299	-0.03760
0.4500	0.06097	-0.03096	0.05105	-0.03622
0.5000	0.05798	-0.02982	0.04854	-0.03446
0.5500	0.05445	-0.02843	0.04555	-0.03234
0.6000	0.05040	-0.02678	0.04212	-0.02985
0.6500	0.04586	-0.02487	0.03819	-0.02702
0.7000	0.04085	-0.02273	0.03375	-0.02384
0.7500	0.03543	-0.02034	0.02887	-0.02034
0.8000	0.02962	-0.01768	0.02362	-0.01658
0.8500	0.02337	-0.01473	0.01808	-0.01265
0.9000	0.01642	-0.01134	0.01235	-0.00865
0.9250	0.01253	-0.00932	0.00943	-0.00664
0.9500	0.00856	-0.00702	0.00642	-0.00454
0.9750	0.00476	-0.00423	0.00328	-0.00233
0.9900	0.00255	-0.00237	0.00132	-0.00093
1.0000	0.00110	-0.00110	0.00000	0.00000
	$r_o/c = 0.007$		$r_o/c = 0.008$	

TABLE 3.- AIRFOIL COORDINATES: HUGHES HH-02 (-5° TAB) AND VERTOL VR-7 (-3° TAB) AIRFOILS

x/c	HUGHES HH-02, y/c		VERTOL VR-7, y/c	
	upper	lower	upper	lower
0.0000	0.00000	0.00000	0.00000	0.00000
0.0005	0.00283	-0.00284	0.00337	-0.00330
0.0010	0.00405	-0.00388	0.00483	-0.00460
0.0020	0.00594	-0.00532	0.00696	-0.00633
0.0035	0.00819	-0.00683	0.00943	-0.00800
0.0050	0.01009	-0.00800	0.01149	-0.00919
0.0065	0.01176	-0.00895	0.01330	-0.01010
0.0080	0.01327	-0.00978	0.01494	-0.01086
0.0100	0.01510	-0.01072	0.01695	-0.01172
0.0125	0.01717	-0.01172	0.01923	-0.01263
0.0160	0.01975	-0.01290	0.02213	-0.01367
0.0200	0.02237	-0.01404	0.02512	-0.01467
0.0250	0.02531	-0.01524	0.02846	-0.01575
0.0350	0.03029	-0.01714	0.03423	-0.01751
0.0500	0.03640	-0.01943	0.04144	-0.01966
0.0650	0.04137	-0.02127	0.04759	-0.02154
0.0800	0.04553	-0.02276	0.05299	-0.02320
0.1000	0.05012	-0.02432	0.05922	-0.02516
0.1250	0.05468	-0.02575	0.06565	-0.02709
0.1500	0.05828	-0.02675	0.07091	-0.02855
0.2000	0.06328	-0.02793	0.07887	-0.03055
0.2500	0.06608	-0.02843	0.08378	-0.03186
0.3000	0.06738	-0.02834	0.08592	-0.03273
0.3500	0.06750	-0.02755	0.08574	-0.03308
0.4000	0.06640	-0.02600	0.08365	-0.03271
0.4500	0.06391	-0.02377	0.07984	-0.03148
0.5000	0.06008	-0.02104	0.07451	-0.02952
0.5500	0.05504	-0.01797	0.06781	-0.02712
0.6000	0.04891	-0.01482	0.05996	-0.02464
0.6500	0.04174	-0.01176	0.05171	-0.02207
0.7000	0.03344	-0.00952	0.04322	-0.01929
0.7500	0.02403	-0.00851	0.03442	-0.01639
0.8000	0.01436	-0.00889	0.02527	-0.01346
0.8500	0.00481	-0.00984	0.01575	-0.01050
0.9000	-0.00431	-0.01041	0.00558	-0.00744
0.9250	-0.00394	-0.00777	0.00117	-0.00609
0.9500	-0.00203	-0.00583	-0.00016	-0.00512
0.9750	-0.00006	-0.00387	0.00115	-0.00380
0.9900	0.00112	-0.00269	0.00194	-0.00300
1.0000	0.00190	-0.00190	0.00247	-0.00247
	$r_o/c = 0.008$		$r_o/c = 0.011$	

TABLE 4.- AIRFOIL COORDINATES: NLR-1 AND NLR-7301 AIRFOILS

x/c	NLR-1, y/c		NLR-7301, y/c	
	upper	lower	upper	lower
0.0000	0.00000	0.00000	0.00000	0.00000
0.0005	0.00359	-0.00288	0.00730	-0.00748
0.0010	0.00499	-0.00388	0.01051	-0.01020
0.0020	0.00687	-0.00518	0.01518	-0.01373
0.0035	0.00890	-0.00643	0.02030	-0.01735
0.0050	0.01053	-0.00730	0.02424	-0.02016
0.0065	0.01194	-0.00799	0.02756	-0.02252
0.0080	0.01321	-0.00858	0.03043	-0.02455
0.0100	0.01475	-0.00929	0.03375	-0.02688
0.0125	0.01648	-0.01006	0.03729	-0.02935
0.0160	0.01868	-0.01101	0.04140	-0.03225
0.0200	0.02097	-0.01196	0.04514	-0.03502
0.0250	0.02358	-0.01301	0.04873	-0.03794
0.0350	0.02799	-0.01477	0.05372	-0.04264
0.0500	0.03328	-0.01688	0.05920	-0.04806
0.0650	0.03750	-0.01859	0.06321	-0.05229
0.0800	0.04093	-0.02007	0.06636	-0.05576
0.1000	0.04435	-0.02179	0.06985	-0.05962
0.1250	0.04701	-0.02363	0.07347	-0.06358
0.1500	0.04905	-0.02522	0.07648	-0.06689
0.2000	0.05200	-0.02775	0.08115	-0.07194
0.2500	0.05386	-0.02958	0.08441	-0.07527
0.3000	0.05489	-0.03082	0.08649	-0.07713
0.3500	0.05528	-0.03154	0.08755	-0.07763
0.4000	0.05511	-0.03185	0.08764	-0.07672
0.4500	0.05443	-0.03176	0.08678	-0.07412
0.5000	0.05327	-0.03126	0.08495	-0.06934
0.5500	0.05164	-0.03025	0.08206	-0.06237
0.6000	0.04948	-0.02882	0.07789	-0.05386
0.6500	0.04677	-0.02707	0.07212	-0.04397
0.7000	0.04348	-0.02503	0.06458	-0.03316
0.7500	0.03892	-0.02276	0.05551	-0.02227
0.8000	0.03172	-0.02028	0.04523	-0.01221
0.8500	0.02368	-0.01756	0.03415	-0.00409
0.9000	0.01562	-0.01427	0.02269	0.00108
0.9250	0.01179	-0.01199	0.01696	0.00228
0.9500	0.00811	-0.00903	0.01129	0.00246
0.9750	0.00454	-0.00511	0.00577	0.00153
0.9900	0.00244	-0.00253	0.00258	0.00042
1.0000	0.00103	-0.00103	0.00055	-0.00055
	$r_o/c = 0.007$		$r_o/c = 0.055$	

TABLE 5.- TRANSDUCER LOCATIONS ON THE AIRFOILS

Transducer Number[a]	Nominal[b] x/c		Actual pressure transducer location							
	Pressure	Hot wire	0012	A-01	FX-098	SC-1095	VR-7	NLR-1	NLR-7301	HH-02
1 LE	0. (0)		0.	0.	0.0002U	0.	0.	0.	0.0015U	0.
2 U	.005 (.004)		.0060	.0054	.0038	.0040	.0044	.0054	.0101	.0050
3	.010 (.010)		.0103	.010	.0067	.0110	.0083	.0108	.0165	.0087
4	.025 (.030)	0.025 (.025)	.0242	.024	.0196	.0275	.0225	.028	.0335	.0326
5	.050 (.06)		.052	.050	.051	.053	.050	.051	.0512	.0581
6	.100 (.12)	.10 (.12)	.102	.100	.101	.1025	.100	.101	.102	.1167
7	.175 (.18)		.176	.175	.177	.178	.175	.177	.177	.183
8	.25 (.25)		.252	.250	.252	.252	.250	.250	.252	.250
9	.325 (.32)		.326	.325	.326	.325	.325	.325	.326	.317
10	.40 (.38)	.40 (.38)	.40	.40	.40	.40	.40	.40	.40	.383
11	.50 (.48)		.50	.50	.50	.50	.50	.50	.50	.472
12	.60 (.56)	.60 (.56)	.60	.60	.60	.60	.60	.60	.60	.561
13	.70 (.65)		.70	.70	.70	.70	.70	.70	.70	.650
14	.80 (.74)	.80 (.74)	.80	.80	.80	.80	.80	.80	.80	.739
15	.90 (.84)		.899	.90	.90	.90	.90	.90	.90	.840
16 U	.98 (.93)		.98	.98	.98	.98	.98	.98	.98	.925
17 L	.98 (.93)		.979	.98	.98	.98	.98	.98	.98	.925
18	.90 (.84)		.90	.90	.90	.90	.90	.90	.90	.840
19	.70 (.65)		.70	.70	.70	.70	.70	.70	.70	.650
20	.50 (.48)		.50	.50	.50	.50	.50	.50	.50	.472
21	.30 (.29)		.30	.30	.30	.30	.30	.30	.30	.294
22	.15 (.16)		.153	.150	.153	.150	.150	.150	.155	.161
23	.05 (.072)		.0504	.050	.051	.052	.050	.051	.0517	.0730
24	.025 (.030)		.023	.026	.027	.028	.0246	.0220	.0194	.0293
25	.010 (.010)		.0093	.0130	.0125	.009	.0094	.0108	.0051	.0081
26 L	.005 (.004)		.0049	.0073	.0061	.005	.0040	.0062	.0021	.0044

[a]LE = leading edge; U = upper surface; L = lower surface.
[b]Locations for HH-02, for which c = 68.6 cm, are shown in parentheses; for all other airfoils shown, c = 61.0 cm.

TABLE 6.- LIST OF DATA FRAMES

(a) NACA 0012 airfoil.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
4019	N	ST	-5.0	0.0	.875	.301	3957803.	0.0000	0.00	4020
4100	N	ST	-2.0	0.0	.877	.301	3932537.	0.0000	0.00	4101
4102	N	ST	0.0	0.0	.877	.301	3923848.	0.0000	0.00	4103
4109	N	ST	2.0	0.0	.877	.302	3910221.	0.0000	0.00	4110
4111	N	ST	4.0	0.0	.875	.299	3931136.	0.0000	0.00	4112
4113	N	ST	8.0	0.0	.877	.302	3898235.	0.0000	0.00	4114
4119	N	ST	10.0	0.0	.877	.301	3900522.	0.0000	0.00	4120
4123	N	ST	12.0	0.0	.877	.302	3876047.	0.0000	0.00	4200
4201	N	ST	13.0	0.0	.877	.302	3870568.	0.0000	0.00	4202
4203	N	ST	13.5	0.0	.879	.301	3867132.	0.0000	0.00	4204
4209	N	ST	14.0	0.0	.877	.302	3851326.	0.0000	0.00	4210
4211	N	ST	14.5	0.0	.868	.305	3822671.	0.0000	0.00	4212
4213	N	ST	15.0	0.0	.877	.302	3843407.	0.0000	0.00	4214
4215	N	ST	15.5	0.0	.794	.284	3620769.	0.0000	0.00	4216
4217	N	ST	16.0	0.0	.693	.266	3390240.	0.0000	0.00	4218
4219	N	ST	17.8	0.0	.717	.271	3462550.	0.0000	0.00	4220
4301	N	ST	20.0	0.0	.700	.266	3449278.	0.0000	0.00	4302
4401	N	ST	13.0	0.0	.877	.302	3795037.	0.0000	0.00	4402
4403	N	ST	11.0	0.0	.877	.302	3783629.	0.0000	0.00	
4404	N	ST	8.0	0.0	.877	.302	3780176.	0.0000	0.00	
4405	N	ST	5.0	0.0	.877	.302	3781319.	0.0000	0.00	
4410	N	ST	2.0	0.0	.877	.302	3783016.	0.0000	0.00	
4411	N	ST	0.0	0.0	.877	.302	3781623.	0.0000	0.00	
4412	N	ST	-2.0	0.0	.877	.302	3775643.	0.0000	0.00	
11018	N	ST	-5.0	0.0	.875	.302	3995937.	0.0000	0.00	
11019	N	ST	-2.0	0.0	.875	.301	3933848.	0.0000	0.00	
11020	N	ST	0.0	0.0	.875	.302	3975539.	0.0000	0.00	
11101	N	ST	2.0	0.0	.875	.302	3974730.	0.0000	0.00	
11102	N	ST	4.0	0.0	.875	.301	3958541.	0.0000	0.00	
11105	N	ST	8.1	0.0	.876	.301	3939560.	0.0000	0.00	
11110	N	ST	10.0	0.0	.875	.301	3936424.	0.0000	0.00	
11111	N	ST	12.3	0.0	.875	.301	3921945.	0.0000	0.00	
11112	N	ST	13.4	0.0	.875	.301	3912493.	0.0000	0.00	
11113	N	ST	13.8	0.0	.875	.301	3904607.	0.0000	0.00	
11118	N	ST	14.0	0.0	.875	.301	3913072.	0.0000	0.00	
11121	N	ST	14.6	0.0	.875	.302	3929975.	0.0000	0.00	
11122	N	ST	15.0	0.0	.887	.304	3925323.	0.0000	0.00	
11123	N	ST	15.5	0.0	.811	.289	3745403.	0.0000	0.00	
11200	N	ST	16.0	0.0	.811	.290	3733699.	0.0000	0.00	
11201	N	ST	17.0	0.0	.841	.295	3793167.	0.0000	0.00	
11204	N	ST	17.9	0.0	.803	.288	3725491.	0.0000	0.00	
11205	N	ST	20.0	0.0	.764	.280	3616412.	0.0000	0.00	
11208	N	ST	24.9	0.0	.610	.249	3252565.	0.0000	0.00	
11209	N	ST	30.0	0.0	.561	.239	3105558.	0.0000	0.00	
11210	N	ST	25.0	0.0	.619	.251	3254780.	0.0000	0.00	
11211	N	ST	20.0	0.0	.725	.273	3515071.	0.0000	0.00	
11213	N	ST	18.0	0.0	.764	.280	3629495.	0.0000	0.00	
11214	N	ST	16.0	0.0	.875	.302	3866108.	0.0000	0.00	
11215	N	ST	15.0	0.0	.875	.302	3861556.	0.0000	0.00	
11216	N	ST	14.0	0.0	.869	.301	3846733.	0.0000	0.00	
11221	N	ST	13.1	0.0	.875	.302	3854318.	0.0000	0.00	
11222	N	ST	11.0	0.0	.875	.302	3876254.	0.0000	0.00	
11223	N	ST	8.0	0.0	.875	.302	3870718.	0.0000	0.00	
11304	N	ST	5.0	0.0	.875	.302	3896492.	0.0000	0.00	
11305	N	ST	2.0	0.0	.875	.302	3871782.	0.0000	0.00	
11308	N	ST	0.0	0.0	.875	.301	3872607.	0.0000	0.00	
11309	N	ST	-2.0	0.0	.875	.301	3875953.	0.0000	0.00	
7019	N	US	9.0	5.0	.878	.297	3694008.	.0503	2.70	7020
7021	N	US	9.0	5.0	.886	.299	3962010.	.1004	5.40	7022
7023	N	US	9.0	5.0	.886	.299	3944777.	.2005	10.80	7100

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
7101	N	US	9.0	5.0	.878	.301	3909814.	.1496	8.10	7102
7104	N	US	9.0	5.0	.878	.301	3901894.	.0249	1.35	7105
7108	N	US	8.0	5.0	.878	.301	3920794.	.0250	1.35	
7110	N	US	8.0	5.0	.878	.301	3903187.	.0997	5.40	
7111	N	US	8.0	5.0	.877	.301	3934727.	.1992	10.80	
7112	N	US	10.0	5.0	.877	.301	3879891.	.0252	1.37	
7113	N	US	10.0	5.0	.877	.301	3877295.	.0994	5.40	
7114	N	US	10.0	5.0	.877	.301	3869051.	.1987	10.60	
7117	N	US	11.0	5.0	.878	.301	3891015.	.0749	1.35	
7118	N	US	11.0	5.0	.878	.301	3915695.	.0497	2.70	
7119	N	US	11.0	5.0	.877	.301	3925664.	.0993	5.40	
7120	N	US	11.0	5.0	.877	.301	3910258.	.1488	8.10	
7121	N	US	11.0	5.0	.878	.301	3852461.	.1983	10.80	
7200	N	US	12.0	5.0	.878	.301	3575632.	.0249	1.35	7201
7205	N	US	12.0	5.0	.877	.302	3903339.	.0991	5.40	7206
7207	N	US	12.0	5.0	.877	.302	3945471.	.1981	10.80	7208
7212	N	US	8.8	5.0	.877	.302	3864884.	.1488	8.10	7213
7214	N	US	8.8	5.0	.877	.302	3857691.	.0992	5.40	7215
7216	N	US	8.8	5.0	.877	.302	3856685.	.0496	2.70	7217
7300	N	US	10.0	5.0	.877	.300	3966300.	.1513	8.10	7301
7302	N	US	10.0	5.0	.877	.300	3957627.	.0745	4.00	
7305	N	US	12.0	5.0	.877	.300	3966326.	.1510	8.10	
8019	N	US	10.0	10.0	.013	.035	451897.	.1038	.66	8020
8021	N	US	10.0	10.0	.013	.035	491001.	.1515	.97	8022
8023	N	US	10.0	10.0	.013	.035	485755.	.2529	1.62	8024
8102	N	US	15.0	10.0	.013	.036	453630.	.1032	.66	8103
8104	N	US	15.0	10.0	.013	.036	484039.	.1529	.98	8105
8106	N	US	15.0	14.0	.013	.036	483453.	.1039	.67	8107
8114	N	US	15.0	10.0	.054	.072	980395.	.0992	1.30	8115
8116	N	US	15.0	10.0	.054	.072	974893.	.1467	1.95	8117
8118	N	US	15.0	10.0	.054	.072	978493.	.2477	3.25	8119
8123	N	US	15.0	14.0	.054	.072	980066.	.0991	1.30	8200
8203	N	US	10.0	10.0	.054	.072	978307.	.2476	3.25	8204
8210	N	US	10.0	10.0	.122	.109	1491495.	.2497	4.90	
8214	N	US	15.0	10.0	.122	.109	1490369.	.0996	1.96	
8220	N	US	15.0	10.0	.339	.184	2432554.	.0993	3.30	8221
8222	N	US	15.0	10.0	.339	.184	2423357.	.1487	4.95	8223
8306	N	US	15.0	14.0	.339	.184	2404523.	.0988	3.30	8307
9022	N	US	15.0	6.0	.339	.184	2358259.	.2352	7.92	
9101	N	US	15.0	5.0	.339	.184	2358520.	.2842	9.57	
9106	N	US	10.0	10.0	.339	.184	2365336.	.2453	8.25	
9110	N	US	8.0	10.0	.339	.184	2476299.	.0100	.33	9111
9112	N	US	8.0	10.0	.341	.183	2475104.	.0500	1.65	9113
9118	N	US	8.0	10.0	.339	.184	2449160.	.1990	6.60	9119
9202	N	US	15.0	10.0	.479	.220	2847551.	.0985	3.93	
9203	N	US	15.0	10.0	.610	.249	3187113.	.0984	4.46	
9209	N	US	15.0	10.0	.762	.280	3520275.	.0975	4.99	
9210	N	US	15.0	10.0	.842	.295	3672459.	.0098	53	
9213	N	US	15.0	10.0	.831	.294	3596380.	.0243	1.31	
9214	N	US	15.0	10.0	.821	.292	3566725.	.0489	2.62	
9217	N	US	15.0	10.0	.812	.290	3549571.	.0963	5.24	
9218	N	US	15.0	10.0	.773	.283	3450727.	.1509	7.86	
9221	N	US	10.0	10.0	.876	.302	3672528.	.0098	.54	
9222	N	US	10.0	10.0	.876	.302	3660134.	.0241	1.34	
9223	N	US	10.0	10.0	.876	.302	3652176.	.0481	2.68	
9302	N	US	10.0	10.0	.876	.302	3659205.	.0963	5.36	
9307	N	US	10.0	10.0	.877	.302	3670847.	.1447	8.04	
10022	N	US	12.0	10.0	.878	.311	3769502.	.0976	5.36	
10101	N	US	20.0	10.0	.688	.265	3303441.	.1102	5.36	
10104	N	US	12.0	8.0	.877	.302	3711352.	.0485	2.68	

TABLE 6.- Continued.

(a) Concluded.

A FRAME	TRIP	TYPE	AO	A1	Q	N	RE	K	FREQ	B FRAME
10105	N	US	12.0	8.0	.878	.302	3694271.	.0968	5.36	
10108	N	US	12.0	8.0	.847	.296	3635989.	.1253	6.81	
10113	N	US	15.0	5.0	.876	.302	3896846.	.0098	.53	
10114	N	US	15.0	5.0	.841	.295	3801337.	.0252	1.34	
10118	N	US	15.0	5.0	.823	.291	3749526.	.1020	5.36	
10120	N	US	15.0	5.0	.843	.294	3785165.	.1511	8.04	
10123	N	US	15.0	5.0	.832	.293	3758528.	.2024	10.72	
10202	N	US	10.0	5.0	.877	.301	3858103.	.0098	.54	
10203	N	US	10.0	5.0	.877	.301	3847481.	.0246	1.34	
10204	N	US	10.0	5.0	.870	.300	3826614.	.0493	2.68	
10207	N	US	10.0	5.0	.877	.302	3824629.	.0740	4.02	
10208	N	US	10.0	5.0	.870	.300	3859785.	.0990	5.36	
10211	N	US	10.0	5.0	.870	.300	3863353.	.1486	8.04	
10212	N	US	10.0	5.0	.870	.300	3850737.	.1979	10.72	
10218	N	US	5.0	5.0	.880	.300	3933484.	.0098	.53	
10221	N	US	5.0	5.0	.878	.301	3925387.	.0993	5.36	
10222	N	US	5.0	5.0	.878	.301	3912114.	.1983	10.72	
10303	N	US	5.0	10.0	.877	.301	3910580.	.0991	5.36	
10305	N	US	3.8	10.0	.877	.301	3911328.	.0991	5.36	
10309	N	US	2.8	10.0	.877	.301	3896261.	.0989	5.36	
12020	N	US	20.0	10.0	.718	.270	3490909.	.0010	.05	12023
12102	N	US	5.0	10.0	.882	.302	3920000.	.0009	.05	12105
12109	N	US	6.0	10.0	.756	.279	3465765.	.0010	.05	12112
12118	N	US	20.0	10.0	.676	.262	3246704.	.0010	.05	12121
12203	N	US	20.0	10.0	.531	.231	2887477.	.0011	.05	12121
12208	N	US	7.0	10.0	.587	.244	3269975.	.0010	.05	12212
12300	N	US	20.0	10.0	.421	.204	2706734.	.0011	.04	12301
12305	N	US	20.0	10.0	.292	.169	2252844.	.0011	.03	12306
12310	N	US	7.0	10.0	.350	.186	2469266.	.0010	.03	
13021	N	US	7.0	10.0	.120	.108	1502757.	.0017	.03	13104
13107	N	US	20.0	10.0	.113	.105	1421201.	.0017	.03	13108
13115	N	US	20.0	10.0	.048	.068	918563.	.0027	.03	13116
13120	N	US	5.0	10.0	.053	.072	962303.	.0025	.03	13202
13205	N	US	5.0	10.0	.014	.036	488772.	.0025	.02	13213
13217	N	US	20.0	10.0	.013	.036	465631.	.0026	.02	
13222	N	US	20.0	10.0	.749	.276	3656957.	.0010	.05	
13303	N	US	7.0	10.0	.603	.247	3298109.	.0010	.05	
13308	N	US	7.0	10.0	.461	.215	2884310.	.0010	.04	
13310	N	US	7.0	10.0	.466	.216	2884723.	.0010	.04	
13313	Y	US	7.0	10.0	.332	.181	2404990.	.0010	.03	13316
13321	Y	US	7.0	10.0	.639	.294	3740954.	.0009	.05	13405
14019	Y	US	15.0	10.0	.339	.183	2453290.	.0499	1.65	14020
14021	Y	US	15.0	10.0	.336	.182	2434182.	.1001	3.30	14022
14023	Y	US	15.0	10.0	.335	.182	2426579.	.1504	4.95	14100
14104	Y	US	15.0	10.0	.338	.183	2443651.	.0499	1.65	14105
14106	Y	US	15.0	10.0	.340	.184	2449399.	.0994	3.30	14107
14108	Y	US	15.0	10.0	.339	.183	2443079.	.1493	4.95	14109
14117	Y	US	15.0	10.0	.837	.293	3843264.	.0257	1.35	14118
14119	Y	US	15.0	10.0	.836	.293	3812432.	.0509	2.68	14120
14200	Y	US	15.0	10.0	.843	.294	3822179.	.0253	1.34	14201
14202	Y	US	15.0	10.0	.839	.293	3792702.	.0506	2.68	14203
14208	Y	US	15.0	10.0	.828	.291	3764396.	.1019	5.36	14209
14210	Y	US	15.0	10.0	.832	.292	3760353.	.1014	5.36	14211
14218	N	US	15.0	10.0	.830	.292	3762798.	.0254	1.34	
14219	N	US	15.0	10.0	.824	.291	3735990.	.0509	2.68	
14220	N	US	15.0	10.0	.805	.287	3683317.	.1031	5.36	14221
15218	N	US	15.0	10.0	.818	.290	3678973.	.0994	5.24	
10117	N	US	15.0	5.0	.843	.295	3802563.	.0504	2.68	
7202	N	US	12.0	5.0	.877	.302	3861194.	.0496	2.70	7201
7222	N	US	10.0	5.0	.876	.298	3975490.	.0509	2.70	7223

TABLE 6.- Continued.

(b) Ames A-01 airfoil.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
26020	N	ST	-5.0	0.0	.880	.301	3921512.	0.0000	0.00	26021
26022	N	ST	-2.0	0.0	.881	.302	3907918.	0.0000	0.00	
26023	N	ST	0.0	0.0	.882	.302	3900668.	0.0000	0.00	26100
26101	N	ST	2.0	0.0	.878	.302	3878703.	0.0000	0.00	
26107	N	ST	4.0	0.0	.879	.302	3839303.	0.0000	0.00	
26108	N	ST	8.0	0.0	.880	.302	3839762.	0.0000	0.00	
26109	N	ST	10.0	0.0	.879	.302	3826626.	0.0000	0.00	26113
26114	N	ST	12.0	0.0	.884	.303	3832104.	0.0000	0.00	26115
26122	N	ST	13.0	0.0	.857	.298	3737465	0.0000	0.00	26123
26200	N	ST	13.5	0.0	.833	.293	3667954.	0.0000	0.00	26201
26205	N	ST	14.0	0.0	.857	.298	3720572.	0.0000	0.00	26206
26207	N	ST	15.0	0.0	.882	.302	3754105	0.0000	0.00	26208
26209	N	ST	16.0	0.0	.870	.300	3715595.	0.0000	0.00	26210
26215	N	ST	18.0	0.0	.815	.290	3589962.	0.0000	0.00	
26216	N	ST	20.0	0.0	.778	.282	3497091.	0.0000	0.00	26217
26218	N	ST	25.0	0.0	.626	.252	3129086.	0.0000	0.00	
26219	N	ST	20.0	0.0	.773	.281	3465882.	0.0000	0.00	
26220	N	ST	16.0	0.0	.832	.293	3591634.	0.0000	0.00	26222
26300	N	ST	14.0	0.0	.878	.302	3703082.	0.0000	0.00	
26301	N	ST	13.0	0.0	.828	.293	3590546.	0.0000	0.00	
26302	N	ST	11.0	0.0	.879	.302	3693921.	0.0000	0.00	
26306	N	ST	5.0	0.0	.883	.303	3706075.	0.0000	0.00	
26307	N	ST	0.0	0.0	.878	.302	3693264.	0.0000	0.00	
26313	N	ST	-5.0	0.0	.614	.250	3126375.	0.0000	0.00	26314
26315	N	ST	-2.0	0.0	.612	.250	3113134.	0.0000	0.00	
26318	N	ST	0.0	0.0	.616	.250	3132011.	0.0000	0.00	26319
26320	N	ST	2.0	0.0	.614	.249	3118900.	0.0000	0.00	
26321	N	ST	4.0	0.0	.612	.250	3112889.	0.0000	0.00	
26414	N	ST	8.0	0.0	.618	.250	3371063.	0.0000	0.00	
26415	N	ST	10.0	0.0	.612	.249	3345903.	0.0000	0.00	26416
26417	N	ST	12.0	0.0	.614	.249	3336283.	0.0000	0.00	26418
26419	N	ST	13.0	0.0	.621	.251	3344961.	0.0000	0.00	26420
26421	N	ST	14.0	0.0	.615	.249	3327823.	0.0000	0.00	26422
27020	N	ST	15.0	0.0	.617	.250	3308153.	0.0000	0.00	27021
27022	N	ST	16.0	0.0	.616	.250	3293220.	0.0000	0.00	27023
27100	N	ST	18.0	0.0	.616	.250	3281426.	0.0000	0.00	
27101	N	ST	20.0	0.0	.618	.250	3281356.	0.0000	0.00	27102
27103	N	ST	25.0	0.0	.613	.249	3255106.	0.0000	0.00	
27107	N	ST	20.0	0.0	.630	.252	3304196.	0.0000	0.00	
27108	N	ST	16.0	0.0	.615	.249	3259565.	0.0000	0.00	
27109	N	ST	14.0	0.0	.617	.250	3265185.	0.0000	0.00	
27110	N	ST	13.0	0.0	.611	.249	3248047.	0.0000	0.00	
27111	N	ST	11.1	0.0	.612	.249	3246751.	0.0000	0.00	
27116	N	ST	5.0	0.0	.607	.248	3241861.	0.0000	0.00	
27117	N	ST	0.0	0.0	.615	.249	3258729	0.0000	0.00	
27123	N	ST	-5.0	0.0	.344	.185	2448549.	0.0000	0.00	27200
27201	N	ST	-2.0	0.0	.343	.184	2440864.	0.0000	0.00	
27202	N	ST	0.0	0.0	.340	.184	2428683.	0.0000	0.00	27203
27204	N	ST	2.0	0.0	.343	.184	2436687.	0.0000	0.00	
27205	N	ST	4.0	0.0	.343	.185	2438037.	0.0000	0.00	
27211	N	ST	8.0	0.0	.347	.185	2460290.	0.0000	0.00	
27212	N	ST	10.0	0.0	.344	.185	2444426.	0.0000	0.00	27213
27214	N	ST	12.0	0.0	.345	.185	2441417.	0.0000	0.00	27215
27216	N	ST	13.0	0.0	.342	.184	2429710.	0.0000	0.00	27217
27218	N	ST	14.0	0.0	.340	.184	2418565.	0.0000	0.00	27219
27220	N	ST	14.9	0.0	.347	.186	2445054.	0.0000	0.00	27221
27301	N	ST	16.0	0.0	.344	.185	2441091.	0.0000	0.00	27302
27303	N	ST	18.0	0.0	.343	.184	2429869.	0.0000	0.00	
27304	N	ST	20.0	0.0	.343	.185	2429178.	0.0000	0.00	27305
27306	N	ST	25.0	0.0	.342	.184	2422378.	0.0000	0.00	

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
27307	N	ST	20.0	0.0	.342	.184	2418525.	0.0000	0.00	
27308	N	ST	16.0	0.0	.342	.184	2422139.	0.0000	0.00	
27309	N	ST	14.0	0.0	.342	.184	2422443.	0.0000	0.00	
27310	N	ST	13.0	0.0	.343	.185	2426821.	0.0000	0.00	
27311	N	ST	11.0	0.0	.341	.184	2422433.	0.0000	0.00	
27317	N	ST	5.0	0.0	.339	.184	2432566.	0.0000	0.00	
27318	N	ST	0.0	0.0	.342	.184	2434309.	0.0000	0.00	
27400	N	ST	-5.0	0.0	.121	.109	1536531.	0.0000	0.00	27401
27402	N	ST	-2.0	0.0	.123	.110	1550354.	0.0000	0.00	
27403	N	ST	0.0	0.0	.121	.108	1533751.	0.0000	0.00	27404
27405	N	ST	2.0	0.0	.122	.109	1536087.	0.0000	0.00	
27406	N	ST	4.0	0.0	.122	.109	1532038.	0.0000	0.00	
27413	N	ST	8.0	0.0	.122	.110	1527397.	0.0000	0.00	
27414	N	ST	10.0	0.0	.121	.109	1522167.	0.0000	0.00	27415
27416	N	ST	12.0	0.0	.122	.110	1525614.	0.0000	0.00	27417
28019	N	ST	13.0	0.0	.121	.109	1491021.	0.0000	0.00	28020
28021	N	ST	14.0	0.0	.121	.109	1485105.	0.0000	0.00	28020
28023	N	ST	15.0	0.0	.132	.114	1541856.	0.0000	0.00	28100
28101	N	ST	16.0	0.0	.129	.112	1526677.	0.0000	0.00	28102
28106	N	ST	18.0	0.0	.124	.110	1498052.	0.0000	0.00	
28107	N	ST	20.0	0.0	.124	.110	1492163.	0.0000	0.00	28108
28109	N	ST	25.0	0.0	.122	.109	1479403.	0.0000	0.00	
28110	N	ST	20.0	0.0	.124	.109	1487571.	0.0000	0.00	
28115	N	ST	14.0	0.0	.122	.109	1476171.	0.0000	0.00	
28116	N	ST	13.0	0.0	.123	.110	1474187.	0.0000	0.00	
28117	N	ST	11.0	0.0	.121	.109	1466536.	0.0000	0.00	
28119	N	ST	0.0	0.0	.123	.110	1476022.	0.0000	0.00	
28120	N	ST	14.5	0.0	.121	.108	1459363.	0.0000	0.00	
28207	Y	ST	0.0	0.0	.341	.184	2441332.	0.0000	0.00	28208
28209	Y	ST	5.0	0.0	.338	.183	2424855.	0.0000	0.00	28210
28211	Y	ST	10.0	0.0	.342	.184	2439422.	0.0000	0.00	28212
28213	Y	ST	12.0	0.0	.343	.185	2439577.	0.0000	0.00	28214
28215	Y	ST	13.0	0.0	.343	.185	2439192.	0.0000	0.00	28216
28217	Y	ST	14.0	0.0	.342	.184	2432247.	0.0000	0.00	28218
28222	Y	ST	15.0	0.0	.341	.185	2427524.	0.0000	0.00	28223
28300	Y	ST	16.0	0.0	.342	.184	2426509.	0.0000	0.00	28301
28302	Y	ST	20.0	0.0	.342	.184	2423536.	0.0000	0.00	28303
28304	Y	ST	0.0	0.0	.343	.185	2426376.	0.0000	0.00	28305
28312	Y	ST	0.0	0.0	.878	.301	3956655.	0.0000	0.00	28313
28314	Y	ST	5.0	0.0	.886	.303	3959734.	0.0000	0.00	28315
28316	Y	ST	10.0	0.0	.884	.302	3939559.	0.0000	0.00	28320
28321	Y	ST	12.0	0.0	.878	.301	3913926.	0.0000	0.00	28322
28323	Y	ST	13.0	0.0	.860	.298	3863673.	0.0000	0.00	28400
28401	Y	ST	14.0	0.0	.827	.292	3779496.	0.0000	0.00	28402
28403	Y	ST	15.0	0.0	.859	.298	3837643.	0.0000	0.00	28404
28408	Y	ST	16.0	0.0	.857	.298	3842021.	0.0000	0.00	28409
28410	Y	ST	0.0	0.0	.832	.302	3836732.	0.0000	0.00	28411
24022	N	US	15.0	10.0	.850	.296	3840159.	.0246	1.31	24023
24100	N	US	15.0	10.0	.814	.290	3732983.	.0501	2.62	24104
24105	N	US	15.0	10.0	.813	.289	3714720.	.1002	5.24	24108
24109	N	US	15.0	10.0	.779	.283	3625374.	.1534	7.86	24110
24117	N	US	15.0	10.0	.765	.280	3549067.	.0982	4.98	24118
24201	N	US	15.0	10.0	.609	.248	3211200.	.0990	4.46	24202
24209	N	US	15.0	10.0	.480	.220	2946350.	.0934	3.93	24210
24217	N	US	15.0	10.0	.340	.184	2396118.	.0986	3.30	24219
24302	N	US	7.5	10.0	.340	.184	2396397.	.0493	1.65	24304
24306	N	US	7.5	10.0	.341	.184	2394970.	.1966	6.60	24307
24314	N	US	15.0	10.0	.123	.110	1504099.	.0994	1.96	24316
24323	N	US	15.0	10.0	.054	.073	944352.	.0992	1.30	24400
25022	N	US	10.0	10.0	.881	.302	3844899.	.0245	1.34	25023

TABLE 6.- Continued.

(b) Concluded.

A FRAME	TRIP	TYPE	A0	A1	Q	M	RE	K	FREQ	B FRAME
25102	N	US	10.0	10.0	.881	.302	3831527.	.0489	2.68	25103
25104	N	US	10.0	10.0	.880	.302	3816708.	.0978	5.36	25108
25109	N	US	10.0	10.0	.879	.302	3810775.	.1468	8.04	25110
25117	N	US	10.0	5.0	.884	.303	3829075.	.0244	1.34	
25118	N	US	10.0	5.0	.879	.302	3803407.	.0489	2.68	
25119	N	US	10.0	5.0	.883	.303	3805390.	.0975	5.36	
25121	N	US	10.0	5.0	.881	.302	3813088.	.1465	8.04	
25122	N	US	10.0	5.0	.884	.303	3819823.	.1462	8.04	
25123	N	US	10.0	5.0	.885	.303	3816827.	.1947	10.72	
29023	Y	US	15.0	10.0	.820	.291	3697799.	.0248	1.31	29100
29101	Y	US	15.0	10.0	.805	.288	3639654.	.0500	2.62	29102
29106	Y	US	15.0	10.0	.806	.288	3646183.	.1001	5.24	29107
29115	Y	US	15.0	10.0	.340	.184	2418131.	.0494	1.65	29116
29117	Y	US	15.0	10.0	.341	.184	2418248.	.0987	3.30	29118
29119	Y	US	15.0	10.0	.341	.184	2417060.	.1481	4.95	29121
29205	N	US	5.0	10.0	.876	.301	3947215.	.0098	.53	29206
29207	N	US	5.0	10.0	.877	.301	3918856.	.0496	2.68	29210
29211	N	US	5.0	10.0	.877	.301	3902857.	.0991	5.36	29212
29213	N	US	5.0	10.0	.879	.301	3896095.	.1483	8.04	29214
29215	N	US	5.0	10.0	.879	.301	3891313.	.1481	8.04	
29223	N	US	13.5	2.0	.876	.301	3811977.	.1965	10.72	29300
29304	N	US	14.5	2.0	.870	.300	3777473.	.1967	10.72	29306
29309	N	US	16.5	2.0	.852	.296	3722411.	.1986	10.72	29310
29317	N	US	15.0	10.0	.013	.035	472349.	.1021	.65	29318
30019	N	US	15.0	10.0	.865	.298	3856941.	.0097	.52	30021
30020	N	US	15.0	10.0	.864	.298	3828146.	.0096	.52	30021
30105	N	US	10.0	10.0	.880	.301	3844592.	.0097	.53	30106
30110	N	US	15.0	5.0	.877	.301	3217844.	.0097	.53	30111
30119	N	US	10.0	5.0	.874	.300	3819252.	.0097	.53	30120
30201	N	US	11.0	5.0	.877	.301	3812196.	.0099	.54	30202
30206	N	US	14.0	2.0	.876	.301	3816950.	.0097	.53	30208
30215	N	US	7.5	10.0	.338	.183	2415733.	.0099	.33	30216
31102	N	US	10.0	10.0	.877	.302	3860208.	.0247	1.34	31103
31104	N	US	10.0	10.0	.878	.302	3859857.	.0492	2.68	31105
31110	N	US	10.0	10.0	.880	.302	3841535.	.1471	8.04	31111
31112	N	US	10.0	10.0	.880	.302	3832051.	.1469	8.04	31111
31119	N	US	5.0	10.0	.884	.303	2856266.	.0245	1.34	31120
31121	N	US	5.0	10.0	.880	.302	3826984.	.0489	2.68	31122
31123	N	US	5.0	10.0	.884	.303	3823741.	.0975	5.36	31200
31201	N	US	5.0	10.0	.883	.303	3816623.	.1463	8.04	31202
31209	N	US	15.0	10.0	.341	.184	2421425.	.0987	3.30	31210
31215	N	US	7.5	10.0	.341	.184	2425499.	.0494	1.65	31216
31217	N	US	7.5	10.0	.341	.185	2423083.	.1972	6.60	31218
31302	N	US	14.5	2.0	.852	.297	3765532.	.1990	10.72	31304
31310	N	US	14.5	2.0	.854	.298	3731989.	.1485	8.04	31312
25204	N	US	15.0	5.0	.877	.301	3973275.	.0249	1.34	
25205	N	US	15.0	5.0	.878	.301	3952662.	.0497	2.68	
25208	N	US	15.0	5.0	.878	.301	3950602.	.0994	5.36	
25209	N	US	15.0	5.0	.857	.298	3697213.	.1506	8.04	
25210	N	US	15.0	5.0	.852	.297	3865306.	.2013	10.72	
25214	N	US	11.0	5.0	.880	.302	3726436.	.0495	2.68	25215
25216	N	US	11.0	5.0	.883	.302	3909711.	.0986	5.36	25217
25301	N	US	5.0	5.0	.884	.302	3903998.	.0984	5.36	25302
25303	N	US	5.0	5.0	.865	.303	3878688.	.1962	10.72	25304
25311	N	US	5.0	10.1	.881	.302	3852707.	.0982	5.36	25312
25319	N	US	5.5	10.0	.881	.302	3833693.	.0980	5.36	25320

TABLE 6.- Continued.

(c) Wortmann FX-098 airfoil.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
17208	Y	ST	0.0	0.0	.877	.301	3975279.	0.0000	0.00	17209
17212	Y	ST	5.0	0.0	.880	.301	3928557.	0.0000	0.00	17213
17220	Y	ST	10.0	0.0	.879	.302	3911481.	0.0000	0.00	17221
17303	Y	ST	12.0	0.0	.847	.296	3802285.	0.0000	0.00	17304
17305	Y	ST	13.0	0.0	.870	.300	3835772.	0.0000	0.00	17306
17310	Y	ST	14.0	0.0	.866	.299	3820036.	0.0000	0.00	17311
17312	Y	ST	15.0	0.0	.866	.299	3805980.	0.0000	0.00	17313
17314	Y	ST	16.0	0.0	.828	.292	3710084.	0.0000	0.00	17315
18019	Y	ST	0.0	0.0	.341	.184	2398709.	0.0000	0.00	18020
18102	Y	ST	5.0	0.0	.343	.185	2400750.	0.0000	0.00	18103
18106	Y	ST	10.0	0.0	.339	.184	2378846.	0.0000	0.00	18107
18108	Y	ST	12.0	0.0	.343	.185	2388927.	0.0000	0.00	18109
18115	Y	ST	13.0	0.0	.346	.185	2394744.	0.0000	0.00	18116
18117	Y	ST	14.0	0.0	.345	.185	2398872.	0.0000	0.00	18118
18119	Y	ST	15.0	0.0	.341	.184	2374587.	0.0000	0.00	18120
18121	Y	ST	16.0	0.0	.340	.184	2368089.	0.0000	0.00	18122
18123	Y	ST	19.9	0.0	.342	.184	2370588.	0.0000	0.00	18200
18206	Y	ST	0.0	0.0	.341	.134	2379635.	0.0000	0.00	18207
18215	N	ST	-5.0	0.0	.122	.110	1500031.	0.0000	0.00	18216
18217	N	ST	-2.0	0.0	.123	.110	1502458.	0.0000	0.00	
18218	N	ST	0.0	0.0	.121	.109	1487692.	0.0000	0.00	18219
18220	N	ST	2.0	0.0	.122	.110	1494149.	0.0000	0.00	
18221	N	ST	4.0	0.0	.121	.109	1466754.	0.0000	0.00	
18304	N	ST	8.0	0.0	.121	.109	1480425.	0.0000	0.00	
18305	N	ST	10.0	0.0	.122	.110	1483466.	0.0000	0.00	18306
18307	N	ST	12.0	0.0	.122	.109	1476483.	0.0000	0.00	18308
18312	N	ST	13.0	0.0	.121	.109	1466753.	0.0000	0.00	18313
18319	N	ST	13.5	0.0	.123	.109	1469738.	0.0000	0.00	18320
18321	N	ST	14.0	0.0	.124	.110	1474082.	0.0000	0.00	18322
18323	N	ST	15.0	0.0	.122	.110	1463922.	0.0000	0.00	18400
18401	N	ST	16.0	0.0	.122	.109	1461183.	0.0000	0.00	18402
18410	N	ST	18.0	0.0	.124	.111	1459953.	0.0000	0.00	18412
18411	N	ST	20.0	0.0	.123	.110	1447617.	0.0000	0.00	18412
18413	N	ST	25.0	0.0	.123	.109	1445110.	0.0000	0.00	
18414	N	ST	20.0	0.0	.122	.110	1439675.	0.0000	0.00	
18421	N	ST	16.0	0.0	.123	.109	1445948.	0.0000	0.00	
18422	N	ST	14.0	0.0	.122	.110	1438216.	0.0000	0.00	
18423	N	ST	13.0	0.0	.122	.109	1439933.	0.0000	0.00	
18500	N	ST	11.0	0.0	.122	.110	1437504.	0.0000	0.00	
18501	N	ST	5.0	0.0	.122	.109	1436482.	0.0000	0.00	
18502	N	ST	0.0	0.0	.122	.110	1439616.	0.0000	0.00	
19020	N	ST	-5.0	0.0	.342	.185	2454849.	0.0000	0.00	19021
19022	N	ST	-2.0	0.0	.342	.184	2447610.	0.0000	0.00	
19023	N	ST	0.0	0.0	.340	.185	2441467.	0.0000	0.00	19100
19101	N	ST	2.0	0.0	.341	.185	2443653.	0.0000	0.00	
19110	N	ST	4.0	0.0	.340	.185	2394977.	0.0000	0.00	
19116	N	ST	8.0	0.0	.341	.185	2378719.	0.0000	0.00	
19117	N	ST	10.0	0.0	.340	.185	2372613.	0.0000	0.00	19118
19119	N	ST	12.0	0.0	.343	.185	2379520.	0.0000	0.00	19120
19121	N	ST	13.0	0.0	.338	.183	2355087.	0.0000	0.00	19122
19123	N	ST	13.5	0.0	.343	.185	2370521.	0.0000	0.00	19200
19204	N	ST	14.0	0.0	.340	.185	2361633.	0.0000	0.00	19205
19206	N	ST	15.0	0.0	.342	.185	2364851.	0.0000	0.00	19207
19208	N	ST	16.0	0.0	.342	.185	2361273.	0.0000	0.00	19209
19213	N	ST	18.0	0.0	.341	.185	2365586.	0.0000	0.00	
19214	N	ST	20.0	0.0	.340	.185	2358408.	0.0000	0.00	19215
19216	N	ST	25.0	0.0	.341	.184	2351317.	0.0000	0.00	
19217	N	ST	20.0	0.0	.340	.185	2348131.	0.0000	0.00	
19221	N	ST	16.0	0.0	.341	.185	2359062.	0.0000	0.00	
19222	N	ST	14.0	0.0	.343	.186	2364589.	0.0000	0.00	
19223	N	ST	13.0	0.0	.340	.185	2353097.	0.0000	0.00	
19300	N	ST	11.0	0.0	.341	.185	2354186.	0.0000	0.00	
19305	N	ST	5.0	0.0	.340	.185	2357348.	0.0000	0.00	
19309	N	ST	0.0	0.0	.340	.185	2354786.	0.0000	0.00	
19314	N	ST	-5.0	0.0	.614	.250	3151118.	0.0000	0.00	19315
19316	N	ST	-2.0	0.0	.611	.250	3138172.	0.0000	0.00	
19317	N	ST	0.0	0.0	.612	.250	3137611.	0.0000	0.00	19318
19401	N	ST	2.0	0.0	.616	.251	3300956.	0.0000	0.00	
19402	N	ST	4.0	0.0	.616	.251	3297074.	0.0000	0.00	
19405	N	ST	8.0	0.0	.617	.251	3297867.	0.0000	0.00	
19406	N	ST	10.0	0.0	.614	.250	3273608.	0.0000	0.00	19407
19411	N	ST	12.0	0.0	.617	.251	3278455.	0.0000	0.00	19412
19413	N	ST	13.0	0.0	.618	.251	3268218.	0.0000	0.00	19414
19415	N	ST	13.5	0.0	.620	.251	3264994.	0.0000	0.00	19416
19423	N	ST	14.0	0.0	.613	.250	3235583.	0.0000	0.00	19500
19504	N	ST	15.0	0.0	.613	.250	3233310.	0.0000	0.00	19505
19506	N	ST	16.0	0.0	.613	.250	3228546.	0.0000	0.00	19507
19508	N	ST	18.0	0.0	.602	.248	3194769.	0.0000	0.00	
20019	N	ST	25.0	0.0	.610	.249	3162267.	0.0000	0.00	
20020	N	ST	20.0	0.0	.612	.250	3158666.	0.0000	0.00	
20021	N	ST	16.0	0.0	.614	.250	3163174.	0.0000	0.00	
20022	N	ST	14.0	0.0	.614	.250	3163970.	0.0000	0.00	
20103	N	ST	13.0	0.0	.610	.249	3155282.	0.0000	0.00	
20104	N	ST	11.0	0.0	.609	.249	3150506.	0.0000	0.00	
20109	N	ST	5.0	0.0	.613	.250	3157103.	0.0000	0.00	
20112	N	ST	0.0	0.0	.615	.250	3152218.	0.0000	0.00	
20118	N	ST	-5.0	0.0	.833	.304	3774892.	0.0000	0.00	20119
20122	N	ST	-2.0	0.0	.833	.303	3776701.	0.0000	0.00	
20123	N	ST	0.0	0.0	.877	.302	3758789.	0.0000	0.00	20200
20203	N	ST	2.0	0.0	.879	.303	3748627.	0.0000	0.00	
20204	N	ST	4.0	0.0	.876	.302	3741653.	0.0000	0.00	
20210	N	ST	8.0	0.0	.878	.303	3768915.	0.0000	0.00	
20211	N	ST	10.0	0.0	.830	.302	3764181.	0.0000	0.00	20212
20213	N	ST	12.0	0.0	.860	.299	3709078.	0.0000	0.00	20214
20222	N	ST	13.0	0.0	.821	.291	3920534.	0.0000	0.00	20223
20300	N	ST	13.5	0.0	.841	.295	3845559.	0.0000	0.00	20301
20302	N	ST	14.0	0.0	.875	.301	3916076.	0.0000	0.00	20303
20307	N	ST	15.0	0.0	.866	.299	3903574.	0.0000	0.00	20308
20309	N	ST	16.0	0.0	.877	.302	3913381.	0.0000	0.00	20310
20311	N	ST	18.0	0.0	.835	.294	3811625.	0.0000	0.00	
20312	N	ST	20.0	0.0	.737	.275	3577136.	0.0000	0.00	20313
20317	N	ST	25.0	0.0	.668	.261	3411407.	0.0000	0.00	
20318	N	ST	20.0	0.0	.740	.275	3576432.	0.0000	0.00	
20319	N	ST	16.0	0.0	.881	.302	3692367.	0.0000	0.00	
20320	N	ST	14.0	0.0	.882	.302	[illegible]	0.0000	0.00	
20321	N	ST	13.0	0.0	.867	.300	3850491.	0.0000	0.00	
20322	N	ST	11.0	0.0	.879	.302	3875469.	0.0000	0.00	
16019	N	UN	15.0	10.0	.013	.036	489137.	.1007	.66	16022
16105	N	UN	15.0	10.0	.056	.074	996067.	.0972	1.30	16106
16114	N	UN	15.0	10.0	.123	.110	1463255.	.0932	1.96	16115
16200	N	UN	15.0	10.0	.343	.185	2429922.	.0983	3.30	16201
16213	N	UN	6.5	10.0	.340	.184	2502119.	.0500	1.65	16217
16215	N	UN	6.5	10.0	.340	.184	2424598.	.1939	6.60	16216
16300	N	UN	15.0	10.0	.481	.220	[illegible]	.0988	3.93	16301
16308	N	UN	15.0	10.0	.612	.249	[illegible]	.0988	4.46	16309
17100	Y	UN	15.0	10.0	.340	.184	2457108.	.0497	1.65	17102
17103	Y	UN	15.0	10.0	.341	.184	2452721.	.0992	3.30	17108
17109	Y	UN	15.0	10.0	.342	.184	2452926.	.1496	4.95	17110
17117	Y	UN	15.0	10.0	.830	.293	3772247.	.0248	1.31	17118
17119	Y	UN	15.0	10.0	.823	.291	3724643.	.0497	2.62	17123

TABLE 6.- Continued.

(c) Concluded.

A FRAME	TRIP	TYPE	A0	A1	Q	M	RE	K	FREQ	B FRAME
17200	Y	UN	15.0	10.0	.814	.290	3702477.	.0999	5.24	17201
21100	N	UN	15.0	10.0	.823	.291	3718613.	.0099	.52	21102
21107	N	UN	10.0	10.0	.867	.299	3792469.	.0098	.53	
21200	N	UN	10.0	5.0	.875	.301	3932117.	.0098	.53	21201
21208	N	UN	3.3	10.0	.882	.302	3898549.	.0097	.53	21209
21219	N	UN	6.5	10.0	.339	.184	2455459.	.0098	.33	21220
22023	N	UN	15.0	10.0	.627	.293	3727983.	.0247	1.31	22100
22103	N	UN	15.0	10.0	.837	.294	3749080.	.0492	2.62	22104
22201	N	UN	15.0	10.0	.785	.285	3554419.	.1008	5.24	22202
22206	N	UN	15.0	10.0	.754	.279	3477029.	.1542	7.86	22207
22208	N	UN	15.0	10.0	.763	.281	3483672.	.0969	4.98	22209
22216	N	UN	10.0	10.0	.875	.302	3722111.	.0243	1.34	
22217	N	UN	10.0	10.0	.875	.302	3720266.	.0485	2.68	
22218	N	UN	10.0	10.0	.862	.300	3694571.	.0977	5.36	
22219	N	UN	10.0	10.0	.835	.294	3618609.	.1490	8.04	
22307	N	UN	10.0	5.0	.875	.301	3954287.	.0246	1.34	2223[illegible]
22308	N	UN	10.0	5.0	.880	.303	3857324.	.0491	2.68	223[illegible]
22309	N	UN	10.0	5.0	.881	.303	3953461.	.0980	5.36	22301
22311	N	UN	10.0	5 0	.877	.302	3849798.	.1475	8.04	22302
22312	N	UN	10.0	5.0	.882	.303	3849072.	.1957	10.72	22303
23021	N	UN	15.0	5.0	.858	.298	3792196.	.0248	1.34	
23022	N	UN	15.0	5.0	.851	.297	3750472.	.0497	2.68	
23023	N	UN	15.0	5.0	.840	.295	3716891.	.1000	5.36	
23100	N	UN	15.0	5.0	.822	.292	3670934.	.1516	8.04	
23107	N	UN	5.0	5.0	.867	.300	3802836.	.0986	5.36	23108
23109	N	UN	5.0	5.0	.867	.300	3799174.	.1970	10.72	23110
23117	N	UN	5.0	10.0	.869	.300	3803440.	.0985	5.36	23118
23201	N	UN	3.8	10.0	.866	.299	3948210.	.1003	5.36	23202
23206	N	UN	3.3	10.0	.866	.299	3924045.	.0500	2.68	23207
23208	N	UN	3.3	10.0	.871	.300	3914485.	.0996	5.36	23210
23211	N	UN	3.3	10.0	.870	.300	3896319.	.1492	8.04	23212
23219	N	UN	12.0	2.0	.864	.299	3965609.	.1994	10.72	23220
23305	N	UN	14.0	2.0	.858	.298	3831711.	.1995	10.72	23306
23310	N	UN	16.0	2.0	.839	.294	3768762.	.2014	10.72	23311
21112	N	UN	15.0	5.0	.873	.301	3940131.	.0099	.53	
23101	N	UN	15.0	5.0	.800	.287	3617353.	.2049	10.72	

TABLE 6.- Continued.

(d) Sikorsky SC-1095 airfoil.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
34022	Y	ST	0.0	0.0	.878	.301	3985083.	0.0000	0.00	34023
34100	Y	ST	5.0	0.0	.880	.301	3976998.	0.0000	0.00	34101
34102	Y	ST	10.0	0.0	.834	.303	3969476.	0.0000	0.00	34103
34107	Y	ST	12.0	0.0	.879	.302	3961576.	0.0000	0.00	34108
34109	Y	ST	13.0	0.0	.833	.302	3946692.	0.0000	0.00	34110
34111	Y	ST	14.0	0.0	.856	.297	3863254.	0.0000	0.00	34112
34113	Y	ST	16.0	0.0	.806	.287	3735399.	0.0000	0.00	34114
34115	Y	ST	0.0	0.0	.880	.301	3902976.	0.0000	0.00	34116
34200	Y	ST	0.0	0.0	.341	.184	2464109.	0.0000	0.00	34201
34202	Y	ST	5.0	0.0	.342	.184	2463733.	0.0000	0.00	34203
34204	Y	ST	10.0	0.0	.342	.184	2455124.	0.0000	0.00	34205
34208	Y	ST	13.0	0.0	.342	.184	2449353.	0.0000	0.00	34209
34210	Y	ST	14.0	0.0	.342	.184	2447959.	0.0000	0.00	34211
34212	Y	ST	16.0	0.0	.341	.184	2441097.	0.0000	0.00	34213
34214	Y	ST	0.0	0.0	.341	.184	2444858.	0.0000	0.00	34215
35021	N	ST	-5.0	0.0	.890	.301	3835776.	0.0000	0.00	35022
35023	N	ST	-2.0	0.0	.878	.301	3819752.	0.0000	0.00	
35100	N	ST	0.0	0.0	.877	.301	3316465.	0.0000	0.00	35101
35102	N	ST	2.0	0.0	.880	.301	3819331.	0.0000	0.00	
35103	N	ST	5.0	0.0	.877	.301	3311571.	0.0000	0.00	35104
35111	N	ST	8.0	0.0	.881	.302	4009328.	0.0000	0.00	
35112	N	ST	10.0	0.0	.879	.302	3931392.	0.0000	0.00	35113
35114	N	ST	12.0	0.0	.877	.301	3960357.	0.0000	0.00	35115
35116	N	ST	13.0	0.0	.845	.295	3967672.	0.0000	0.00	35117
35118	N	ST	13.5	0.0	.836	.293	3835999.	0.0000	0.00	35119
35123	N	ST	14.0	0.0	.879	.302	3927739.	0.0000	0.00	
35200	N	ST	16.0	0.0	.832	.293	3800314.	0.0000	0.00	35201
35206	N	ST	14.0	0.0	.874	.301	3593325.	0.0000	0.00	
35207	N	ST	13.0	0.0	.822	.291	3760933.	0.0000	0.00	
35208	N	ST	12.5	0.0	.845	.295	3502021.	0.0000	0.00	
35213	N	ST	5.0	0.0	.678	.302	3394699.	0.0000	0.00	
35214	N	ST	0.0	0.0	.863	.302	3894747.	0.0000	0.00	
35220	N	ST	-5.0	0.0	.610	.249	3240465.	0.0000	0.00	
35221	N	ST	-2.0	0.0	.611	.249	3231739.	0.0000	0.00	
35222	N	ST	0.0	0.0	.613	.250	3233553.	0.0000	0.00	
35223	N	ST	2.0	0.0	.612	.249	3228312.	0.0000	0.00	
35300	N	ST	5.0	0.0	.613	.250	3229749.	0.0000	0.00	
35305	N	ST	8.0	0.0	.612	.249	3194450.	0.0000	0.00	
35306	N	ST	10.0	0.0	.614	.249	3194632.	0.0000	0.00	
35307	N	ST	12.0	0.0	.610	.249	3176162.	0.0000	0.00	
35308	N	ST	13.0	0.0	.609	.248	3167812.	0.0000	0.00	
35309	N	ST	13.5	0.0	.605	.247	3151475.	0.0000	0.00	
35310	N	ST	14.1	0.0	.615	.250	3175031.	0.0000	0.00	
35313	N	ST	16.0	0.0	.614	.249	3171947.	0.0000	0.00	
35314	N	ST	18.0	0.0	.611	.249	3155127.	0.0000	0.00	
35315	N	ST	20.0	0.0	.609	.248	3138360.	0.0000	0.00	
35316	N	ST	25.0	0.0	.612	.250	3135933.	0.0000	0.00	
35317	N	ST	14.0	0.0	.611	.249	3142583.	0.0000	0.00	
35318	N	ST	13.0	0.0	.612	.250	3143100.	0.0000	0.00	
35319	N	ST	12.5	0.0	.611	.249	3139723.	0.0000	0.00	
35400	N	ST	5.0	0.0	.614	.249	3166450.	0.0000	0.00	
35401	N	ST	0.0	0.0	.611	.249	3153505.	0.0000	0.00	
36019	N	ST	-5.0	0.0	.342	.184	2509809.	0.0000	0.00	
36020	N	ST	0.0	0.0	.341	.185	2503010.	0.0000	0.00	36021
36022	N	ST	5.0	0.0	.341	.185	2493947.	0.0000	0.00	36023
36106	N	ST	10.0	0.0	.341	.185	2467697.	0.0000	0.00	36107
36108	N	ST	12.0	0.0	.341	.185	2461702.	0.0000	0.00	36109
36110	N	ST	13.5	0.0	.340	.184	2452406.	0.0000	0.00	36111
36112	N	ST	14.0	0.0	.341	.185	2447787.	0.0000	0.00	36113
36117	N	ST	15.0	0.0	.338	.183	2423196.	0.0000	0.00	
36118	N	ST	16.0	0.0	.340	.184	2432059.	0.0000	0.00	36119
36120	N	ST	20.0	0.0	.341	.185	2424852.	0.0000	0.00	
36202	N	ST	-5.0	0.0	.123	.110	1457009.	0.0000	0.00	
36203	N	ST	0.0	0.0	.124	.111	1461763.	0.0000	0.00	
36204	N	ST	5.0	0.0	.123	.110	1455304.	0.0000	0.00	
36209	N	ST	10.0	0.0	.122	.110	1429342.	0.0000	0.00	
36210	N	ST	12.0	0.0	.121	.109	1420840.	0.0000	0.00	
36211	N	ST	13.5	0.0	.122	.110	1428033.	0.0000	0.00	
36212	N	ST	14.0	0.0	.124	.110	1430614.	0.0000	0.00	
36213	N	ST	15.0	0.0	.122	.110	1421260.	0.0000	0.00	
36216	N	ST	15.5	0.0	.123	.110	1425215.	0.0000	0.00	
36217	N	ST	16.0	0.0	.121	.109	1413387.	0.0000	0.00	
36218	N	ST	20.0	0.0	.120	.109	1408711.	0.0000	0.00	
33022	N	UN	15.0	10.0	.054	.073	975044.	.0987	1.30	33023
33106	N	UN	15.0	10.0	.124	.110	1462074.	.0979	1.96	33107
33110	N	UN	15.0	10.0	.339	.183	2400379.	.0990	3.30	33111
33118	N	UN	6.2	10.0	.334	.182	2390916.	.0499	1.65	33120
33121	N	UN	6.2	10.0	.340	.184	2409037.	.1975	6.60	33122
33205	N	UN	15.0	10.0	.479	.219	2837984.	.0985	3.93	33206
33207	N	UN	15.0	10.0	.612	.249	3185055.	.0984	4.46	33208
33215	N	UN	15.0	10.0	.762	.279	3744973.	.1002	4.98	33216
33217	N	UN	15.0	10.0	.855	.297	3920520.	.0247	1.31	33218
33222	N	UN	15.0	10.0	.852	.296	3866915.	.04[illegible]	2.62	33223
33300	N	UN	15.0	10.0	.832	.292	3816743.	.0997	5.24	33303
34306	Y	UN	15.0	10.0	.828	.292	3875513.	.0503	2.62	34307
34308	Y	UN	15.0	10.0	.807	.288	3800453.	.1017	5.24	34309
34318	Y	UN	15.0	10.0	.340	.184	2482077.	.0500	1.65	34319
34321	Y	UN	15.0	10.0	.341	.184	2476494.	.0998	3.30	34322
34323	Y	UN	15.0	10.0	.341	.184	2472265.	.1495	4.95	34400
34409	N	UN	15.0	10.0	.762	.279	3601340.	.1557	7.86	34410
34418	N	UN	4.4	10.0	.881	.302	3864557.	.0983	5.36	34419
37023	N	UN	10.0	10.0	.866	.300	3936295.	.0252	1.35	37100
37101	N	UN	10.0	10.0	.876	.301	3928667.	.0496	2.68	37102
37107	N	UN	10.0	10.0	.680	.302	3915346.	.0987	5.36	37108
37109	N	UN	10.0	10.0	.879	.302	3894279.	.1480	8.04	37113
37119	N	UN	4.1	10.0	.879	.302	3866563.	.0492	2.68	37120
37121	N	UN	4.1	10.0	.896	.303	3859634.	.0978	5.36	37122
37123	N	UN	4.1	10.0	.879	.302	3836077.	.1471	8.04	37201
37207	N	UN	10.0	5.0	.879	.302	3784178.	.0244	1.34	
37208	N	UN	10.0	5.0	.871	.301	3750400.	.0489	2.68	
37210	N	UN	10.0	5.0	.879	.302	3760364.	.0972	5.36	
37213	N	UN	10.0	5.0	.885	.303	3780389.	.1454	8.04	
37215	N	UN	10.0	5.0	.883	.303	3763997.	.1939	10.72	
37219	N	UN	11.0	5.0	.871	.301	3752512.	.0489	2.68	37220
37221	N	UN	11.0	5.0	.878	.302	3752961.	.0972	5.36	37222
37304	N	UN	12.0	8.0	.878	.301	4001117.	.0499	2.68	
37305	N	UN	12.0	8.0	.878	.301	3984111.	.0997	5.36	
37306	N	UN	12.0	8.0	.876	.301	3969804.	.1266	6.81	
38021	N	UN	15.0	5.0	.879	.302	3954977.	.0248	1.34	
38022	N	UN	15.0	5.0	.865	.299	3893850.	.0499	2.68	
38102	N	UN	15.0	5.0	.840	.294	3784856.	.1008	5.36	
38103	N	UN	15.0	5.0	.830	.293	3747172.	.1519	8.04	
38104	N	UN	15.0	5.0	.808	.289	3688250.	.2053	10.72	
38119	N	UN	14.0	2.0	.870	.300	3854545.	.1980	10.72	38121
38201	N	UN	12.3	2.0	.876	.301	3876423.	.1975	10.72	38204
38216	N	UN	6.2	10.0	.339	.183	2468863.	.0100	.33	38217
38300	N	UN	15.0	10.0	.862	.298	3951336.	.0102	.54	38302
38306	N	UN	10.0	10.0	.869	.299	3931609.	.0099	.53	38307
39021	N	UN	4.1	10.0	.875	.300	3811898.	.0097	.53	39022
39104	N	UN	15.0	5.0	.856	.297	3926571.	.0100	.53	

TABLE 6.- Continued.

(d) Concluded.

A FRAME	TRIP	TYPE	A0	A1	Q	M	RE	K	FREQ	B FRAME
39110	N	UN	11.0	5.0	.869	.299	3896687.	.0099	.53	
39115	N	UN	14.0	2.0	.865	.298	3838622.	.0100	.54	
38110	N	UN	16.0	2.0	.832	.293	3754517.	.2023	10.72	38111
39107	N	UN	10.0	5.0	.876	.300	3939495.	.0098	.53	

TABLE 6.- Continued.

(e) Hughes HH-02 airfoil.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
40018	N	ST	-5.0	0.0	.122	.110	1508746.	0.0000	0.00	
40019	N	ST	0.0	0.0	.121	.109	1502749.	0.0000	0.00	
40020	N	ST	5.0	0.0	.123	.110	1511661.	0.0000	0.00	
40101	N	ST	10.0	0.0	.123	.110	1511504.	0.0000	0.00	
40102	N	ST	12.0	0.0	.120	.109	1490669.	0.0000	0.00	
40103	N	ST	14.0	0.0	.125	.111	1514773.	0.0000	0.00	
40104	N	ST	14.5	0.0	.123	.109	1502336.	0.0000	0.00	
40105	N	ST	15.0	0.0	.122	.110	1499223.	0.0000	0.00	
40106	N	ST	15.5	0.0	.121	.109	1494155.	0.0000	0.00	
40107	N	ST	16.0	0.0	.121	.109	1487366.	0.0000	0.00	
40108	N	ST	20.0	0.0	.122	.110	1497097.	0.0000	0.00	
40114	N	ST	-5.0	0.0	.342	.185	2477234.	0.0000	0.00	
40115	N	ST	0.0	0.0	.341	.185	2463667.	0.0000	0.00	40116
40117	N	ST	4.9	0.0	.341	.185	2469322.	0.0000	0.00	40118
40201	N	ST	10.0	0.0	.341	.185	2478173.	0.0000	0.00	40202
40203	N	ST	12.0	0.0	.343	.185	2480399.	0.0000	0.00	40204
40205	N	ST	14.0	0.0	.341	.185	2474050.	0.0000	0.00	40206
40207	N	ST	14.5	0.0	.344	.186	2483787.	0.0000	0.00	40208
40212	N	ST	15.0	0.0	.340	.185	2474314.	0.0000	0.00	
40213	N	ST	16.0	0.0	.340	.185	2473125.	0.0000	0.00	40214
40215	N	ST	20.0	0.0	.342	.185	2473045.	0.0000	0.00	
40222	N	ST	8.0	0.0	.879	.302	4129994.	0.0000	0.00	
40223	N	ST	10.0	0.0	.874	.301	4103323.	0.0000	0.00	40300
40301	N	ST	12.0	0.0	.875	.300	4065502.	0.0000	0.00	40302
40303	N	ST	13.0	0.0	.869	.299	4051531.	0.0000	0.00	40304
40308	N	ST	13.5	0.0	.878	.301	4059676.	0.0000	0.00	40309
40310	N	ST	14.0	0.0	.878	.301	4041789.	0.0000	0.00	40311
40312	N	ST	14.5	0.0	.883	.302	4039947.	0.0000	0.00	40313
40314	N	ST	15.0	0.0	.884	.303	4032069.	0.0000	0.00	40315
40319	N	ST	18.0	0.0	.806	.288	3854130.	0.0000	0.00	40320
40321	N	ST	20.0	0.0	.715	.270	3619314.	0.0000	0.00	
40322	N	ST	14.0	0.0	.881	.301	4009498.	0.0000	0.00	
40323	N	ST	13.0	0.0	.869	.299	3990164.	0.0000	0.00	
40400	N	ST	12.5	0.0	.871	.300	3981021.	0.0000	0.00	
40406	N	ST	5.0	0.0	.877	.301	4024289.	0.0000	0.00	
40407	N	ST	0.0	0.0	.878	.301	4023056.	0.0000	0.00	
41019	N	ST	-5.0	0.0	.874	.300	4148783.	0.0000	0.00	41020
41021	N	ST	-2.0	0.0	.874	.300	4123380.	0.0000	0.00	
41100	N	ST	0.0	0.0	.872	.300	4107145.	0.0000	0.00	41101
41102	N	ST	2.0	0.0	.875	.300	4097393.	0.0000	0.00	.
41103	N	ST	5.0	0.0	.877	.301	4090950.	0.0000	0.00	41104
41110	N	ST	-5.0	0.0	.610	.248	3409824.	0.0000	0.00	
41111	N	ST	-2.0	0.0	.610	.248	3397141.	0.0000	0.00	
41112	N	ST	0.0	0.0	.610	.248	3393868.	0.0000	0.00	
41113	N	ST	2.0	0.0	.611	.248	3391537.	0.0000	0.00	
41114	N	ST	5.0	0.0	.609	.248	3351054.	0.0000	0.00	
41119	N	ST	8.0	0.0	.610	.248	3361029.	0.0000	0.00	
41120	N	ST	10.0	0.0	.609	.248	3342575.	0.0000	0.00	
41121	N	ST	12.0	0.0	.609	.248	3337152.	0.0000	0.00	
41122	N	ST	13.0	0.0	.612	.249	3337832.	0.0000	0.00	
41123	N	ST	13.5	0.0	.614	.249	3341019.	0.0000	0.00	
41200	N	ST	14.0	0.0	.611	.249	3329247.	0.0000	0.00	
41201	N	ST	14.5	0.0	.610	.248	3321692.	0.0000	0.00	
41202	N	ST	15.0	0.0	.609	.249	3315976.	0.0000	0.00	
41205	N	ST	18.0	0.0	.608	.248	3317238.	0.0000	0.00	
41206	N	ST	20.0	0.0	.608	.248	3300068.	0.0000	0.00	
41207	N	ST	14.0	0.0	.614	.249	3321536.	0.0000	0.00	
41208	N	ST	13.0	0.0	.609	.248	3310470.	0.0000	0.00	
41209	N	ST	12.5	0.0	.613	.249	3319411.	0.0000	0.00	
41214	N	ST	5.0	0.0	.613	.249	3342074.	0.0000	0.00	

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
41215	N	ST	0.0	0.0	.611	.249	3331668.	0.0000	0.00	
41221	Y	ST	0.0	0.0	.875	.299	4054062.	0.0000	0.00	41222
41223	Y	ST	5.0	0.0	.874	.300	4025612.	0.0000	0.00	41300
41301	Y	ST	10.0	0.0	.877	.300	4012119.	0.0000	0.00	41302
41303	Y	ST	12.0	0.0	.873	.300	3995297.	0.0000	0.00	41304
41305	Y	ST	13.0	0.0	.858	.296	3950234.	0.0000	0.00	41306
41307	Y	ST	13.5	0.0	.879	.300	3987094.	0.0000	0.00	41308
41312	Y	ST	14.0	0.0	.876	.300	3990589.	0.0000	0.00	41313
41314	Y	ST	16.0	0.0	.811	.287	3822102.	0.0000	0.00	41315
41401	Y	ST	0.0	0.0	.336	.182	2505262.	0.0000	0.00	41402
41403	Y	ST	5.0	0.0	.340	.184	2516822.	0.0000	0.00	41404
41405	Y	ST	10.0	0.0	.339	.183	2509654.	0.0000	0.00	41406
41407	Y	ST	12.0	0.0	.336	.182	2495906.	0.0000	0.00	41408
41409	Y	ST	13.0	0.0	.337	.183	2499130.	0.0000	0.00	41410
41411	Y	ST	13.5	0.0	.333	.182	2498901.	0.0000	0.00	41412
41413	Y	ST	14.0	0.0	.334	.181	2488612.	0.0000	0.00	41414
41415	Y	ST	14.5	0.0	.339	.183	2503241.	0.0000	0.00	41416
41417	Y	ST	16.0	0.0	.338	.182	2496014.	0.0000	0.00	41418
41419	Y	ST	0.0	0.0	.338	.182	2495914.	0.0000	0.00	
42019	Y	US	15.0	10.0	.836	.292	3955253.	.0252	1.31	42020
42021	Y	US	15.0	10.0	.821	.289	3884045.	.0508	2.62	42022
42100	Y	US	15.0	10.0	.788	.283	3706235.	.1035	5.24	42101
42108	Y	US	15.0	10.0	.339	.183	2520006.	.0506	1.65	42109
42110	Y	US	15.0	10.0	.338	.183	2526565.	.1013	3.30	42112
42113	Y	US	15.0	10.0	.340	.183	2532492.	.1516	4.95	42114
42121	N	US	15.0	10.0	.054	.072	1027532.	.1011	1.30	42122
42206	N	US	15.0	10.0	.823	.290	3980979.	.0256	1.31	42207
42208	N	US	15.0	10.0	.834	.292	3977572.	.0507	2.62	42209
42210	N	US	15.0	10.0	.813	.288	3911977.	.1025	5.24	42211
42212	N	US	15.0	10.0	.786	.283	3830298.	.1561	7.85	42213
42217	N	US	15.0	10.0	.786	.293	3833375.	.1564	7.86	
42218	N	US	15.0	10.0	.759	.278	3756013.	.1008	4.93	42219
42302	N	US	15.0	10.0	.339	.183	2526332.	.1011	3.30	42303
42309	N	US	15.0	10.0	.476	.218	2951460.	.1011	3.93	42310
42313	N	US	15.0	10.0	.604	.246	3327957.	.1013	4.46	42314
42321	N	US	15.0	10.0	.120	.108	1510607.	.1013	1.96	42322
43019	N	US	10.0	10.0	.658	.297	3898111.	.0101	.54	43020
43106	N	US	10.0	10.0	.870	.301	3930420.	.0249	1.34	43107
43108	N	US	10.0	10.0	.876	.302	3927336.	.0496	2.68	43109
43114	N	US	10.0	10.0	.861	.299	3899487.	.1502	8.04	
43117	N	US	10.0	10.0	.849	.297	3896604.	.1514	8.04	43118
43202	N	US	3.8	10.0	.874	.301	3968174.	.0249	1.34	43203
43112	N	US	10.0	10.0	.876	.302	3945527.	.0993	5.36	43113
43204	N	US	3.8	10.0	.877	.302	3962955.	.0497	2.68	43205
43206	N	US	3.8	10.0	.876	.302	3955351.	.0994	5.36	43208
43209	N	US	3.8	10.0	.878	.302	3955884.	.1489	8.04	43210
43215	N	US	3.8	10.0	.876	.302	4060507.	.0101	.54	43216
43219	N	US	4.0	10.0	.879	.303	4045704.	.0999	5.36	43221
43303	N	US	15.0	5.0	.845	.296	3918196.	.0254	1.34	
43304	N	US	15.0	5.0	.821	.292	3841831.	.0515	2.68	
43305	N	US	15.0	5.0	.817	.291	3822850.	.1030	5.36	
43309	N	US	15.0	5.0	.805	.289	3776917.	.2073	10.72	
43314	N	US	11.0	5.0	.876	.302	3934245.	.0248	1.34	
43315	N	US	11.0	5.0	.877	.302	3922072.	.0489	2.65	
43316	N	US	11.0	5.0	.875	.302	3909299.	.0990	5.36	
44019	N	US	10.0	5.0	.869	.301	3960458.	.0101	.54	44020
44021	N	US	10.0	5.0	.876	.302	3950518.	.0248	1.34	44022
44023	N	US	10.0	5.0	.876	.302	3943793.	.0476	2.69	44100
44104	N	US	10.0	5.0	.891	.303	3996291.	.0993	5.36	44105
44106	N	US	10.0	5.0	.880	.303	3991389.	.1490	8.04	44107

TABLE 6.- Continued.

(e) Concluded.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
44112	N	US	10.0	5.0	.880	.303	4003278.	.1989	10.72	44113
44118	N	US	10.0	5.0	.880	.302	4037690.	.0999	5.36	
44119	N	US	10.0	5.0	.876	.302	4019097.	.0250	1.34	
44120	N	US	10.0	5.0	.878	.302	4007236.	.1997	10.72	
44202	N	US	14.0	2.0	.875	.301	4004232.	.1001	5.36	44203
44204	N	US	14.0	2.0	.872	.301	3987136.	.2002	10.72	44205
44209	N	US	17.5	2.0	.773	.282	3756572.	.2132	10.72	
44212	N	US	15.5	2.0	.854	.297	3961107.	.0102	.54	
44214	N	US	15.5	2.0	.851	.297	3917470.	.0253	1.34	
44215	N	US	15.5	2.0	.849	.296	3904494.	.0506	2.68	
44216	N	US	15.5	2.0	.829	.293	3854681.	.1024	5.36	
44217	N	US	15.5	2.0	.820	.291	3826794.	.1545	8.04	
44218	N	US	15.5	2.0	.824	.292	3832243.	.2054	10.72	
44221	N	US	12.5	2.0	.871	.301	3956005.	.0101	.54	
44222	N	US	12.5	2.0	.877	.302	3946321.	.0248	1.34	
44223	N	US	12.5	2.0	.871	.301	3926000.	.0493	2.68	
44300	N	US	12.5	2.0	.874	.301	3929775.	.0994	5.36	
44303	N	US	12.5	2.0	.877	.302	3952217.	.1490	8.04	
44304	N	US	12.5	2.0	.878	.302	3945918.	.1984	10.72	
43308	N	US	15.0	5.0	.813	.290	3809287.	.1549	8.04	

TABLE 6.- Continued.

(f) Vertol VR-7 airfoil.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
46018	N	ST	-5.0	0.0	.121	.108	1551001.	0.0000	0.00	
46019	N	ST	0.0	0.0	.121	.108	1546271.	0.0000	0.00	
46020	N	ST	5.0	0.0	.123	.109	1557517.	0.0000	0.00	
46101	N	ST	10.0	0.0	.118	.107	1512690.	0.0000	0.00	
46102	N	ST	12.0	0.0	.122	.109	1540066.	0.0000	0.00	
46103	N	ST	12.5	0.0	.123	.109	1547844.	0.0000	0.00	
46104	N	ST	13.0	0.0	.123	.109	1543769.	0.0000	0.00	
46105	N	ST	13.5	0.0	.123	.109	1542255.	0.0000	0.00	
46106	N	ST	14.0	0.0	.122	.109	1535972.	0.0000	0.00	
46107	N	ST	15.0	0.0	.122	.109	1537932.	0.0000	0.00	
46108	N	ST	17.0	0.0	.123	.109	1541148.	0.0000	0.00	
46109	N	ST	20.0	0.0	.122	.109	1534206.	0.0000	0.00	
46110	N	ST	25.0	0.0	.120	.108	1523001.	0.0000	0.00	
46116	N	ST	-5.0	0.0	.341	.184	2550698.	0.0000	0.00	
46117	N	ST	0.0	0.0	.342	.183	2552563.	0.0000	0.00	46118
46119	N	ST	5.0	0.0	.341	.183	2546369.	0.0000	0.00	46120
46203	N	ST	10.0	0.0	.343	.184	2562110.	0.0000	0.00	46204
46205	N	ST	12.0	0.0	.341	.183	2551368.	0.0000	0.00	46206
46207	N	ST	12.5	0.0	.342	.183	2552262.	0.0000	0.00	46208
46209	N	ST	13.0	0.0	.342	.184	2553793.	0.0000	0.00	46210
46211	N	ST	13.5	0.0	.341	.183	2550511.	0.0000	0.00	46212
46217	N	ST	14.0	0.0	.342	.183	2637541.	0.0000	0.00	46218
46219	N	ST	15.0	0.0	.341	.183	2630320.	0.0000	0.00	46220
46221	N	ST	17.0	0.0	.340	.183	2624424.	0.0000	0.00	46222
46223	N	ST	20.0	0.0	.340	.183	2622591.	0.0000	0.00	46300
46301	N	ST	25.0	0.0	.340	.183	2614669.	0.0000	0.00	
46307	N	ST	-5.0	0.0	.612	.248	3482182.	0.0000	0.00	
46308	N	ST	-2.0	0.0	.613	.249	3476509.	0.0000	0.00	
46309	N	ST	0.0	0.0	.612	.248	3469801.	0.0000	0.00	
46310	N	ST	2.0	0.0	.611	.248	3461144.	0.0000	0.00	
46311	N	ST	5.0	0.0	.614	.248	3462655.	0.0000	0.00	
46317	N	ST	8.0	0.0	.615	.249	3457898.	0.0000	0.00	
46318	N	ST	10.0	0.0	.611	.248	3435015.	0.0000	0.00	
46319	N	ST	12.0	0.0	.613	.248	3433344.	0.0000	0.00	
46320	N	ST	12.5	0.0	.615	.249	3429325.	0.0000	0.00	
46321	N	ST	13.0	0.0	.612	.243	3419429.	0.0000	0.00	
46322	N	ST	13.5	0.0	.610	.249	3409795.	0.0000	0.00	
46323	N	ST	14.0	0.0	.613	.249	3417715.	0.0000	0.00	
46400	N	ST	15.0	0.0	.613	.249	3413348.	0.0000	0.00	
46403	N	ST	17.0	0.0	.616	.249	3427697.	0.0000	0.00	
46404	N	ST	20.0	0.0	.615	.249	3412222.	0.0000	0.00	
46405	N	ST	25.0	0.0	.614	.248	3396768.	0.0000	0.00	
46406	N	ST	13.0	0.0	.613	.249	3398737.	0.0000	0.00	
46407	N	ST	12.0	0.0	.610	.248	3391942.	0.0000	0.00	
46412	N	ST	0.0	0.0	.614	.248	3394265.	0.0000	0.00	
46418	N	ST	-5.0	0.0	.877	.300	3996105.	0.0000	0.00	46419
46420	N	ST	-2.0	0.0	.878	.301	3986471.	0.0000	0.00	
46423	N	ST	2.0	0.0	.875	.300	3965954.	0.0000	0.00	
46500	N	ST	5.0	0.0	.877	.300	3965878.	0.0000	0.00	46501
46508	N	ST	8.0	0.0	.878	.300	4161706.	0.0000	0.00	
46509	N	ST	10.0	0.0	.870	.298	4126333.	0.0000	0.00	46510
46511	N	ST	12.0	0.0	.876	.299	4119351.	0.0000	0.00	46512
46513	N	ST	12.5	0.0	.874	.299	4099603.	0.0000	0.00	46514
46515	N	ST	13.0	0.0	.867	.298	4070743.	0.0000	0.00	46516
46517	N	ST	13.5	0.0	.879	.300	4087558.	0.0000	0.00	46518
46519	N	ST	14.0	0.0	.878	.300	4077474.	0.0000	0.00	46520
46600	N	ST	15.0	0.0	.873	.299	4089463.	0.0000	0.00	46601
46602	N	ST	17.0	0.0	.878	.300	4078318.	0.0000	0.00	46603
46604	N	ST	20.0	0.0	.831	.291	3955770.	0.0000	0.00	
46608	N	ST	25.0	0.0	.690	.265	3626593.	0.0000	0.00	

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
46609	N	ST	13.0	0.0	.876	.299	4071175.	0.0000	0.00	
46610	N	ST	12.0	0.0	.872	.299	4055190.	0.0000	0.00	
46615	N	ST	0.0	0.0	.881	.300	4097411.	0.0000	0.00	
46621	Y	ST	0.0	0.0	.340	.183	2522757.	0.0000	0.00	46622
46623	Y	ST	5.0	0.0	.340	.183	2514978.	0.0000	0.00	46700
46701	Y	ST	10.0	0.0	.340	.183	2513421.	0.0000	0.00	46702
46703	Y	ST	12.0	0.0	.341	.183	2515138.	0.0000	0.00	46704
46705	Y	ST	13.0	0.0	.340	.183	2506104.	0.0000	0.00	46706
46707	Y	ST	14.0	0.0	.339	.182	2501582.	0.0000	0.00	46708
46712	Y	ST	15.0	0.0	.340	.183	2518275.	0.0000	0.00	46713
46714	Y	ST	16.0	0.0	.341	.184	2516975.	0.0000	0.00	46715
46716	Y	ST	20.0	0.0	.343	.184	2517610.	0.0000	0.00	46717
46718	Y	ST	0.0	0.0	.342	.183	2519323.	0.0000	0.00	46719
46802	Y	ST	0.0	0.0	.881	.300	4204772.	0.0000	0.00	46803
46804	Y	ST	5.0	0.0	.881	.300	4185103.	0.0000	0.00	46805
46806	Y	ST	10.0	0.0	.896	.301	4170536.	0.0000	0.00	46807
46808	Y	ST	12.0	0.0	.882	.300	4145330.	0.0000	0.00	46809
46810	Y	ST	13.0	0.0	.883	.301	4139718.	0.0000	0.00	46811
46815	Y	ST	14.0	0.0	.881	.300	4137342.	0.0000	0.00	46816
46817	Y	ST	15.0	0.0	.877	.300	4108230.	0.0000	0.00	46818
46819	Y	ST	16.0	0.0	.877	.299	4091352.	0.0000	0.00	46820
46821	Y	ST	20.0	0.0	.806	.287	3893404.	0.0000	0.00	46822
46923	Y	ST	0.0	0.0	.881	.300	4085157.	0.0000	0.00	46900
45019	N	UN	15.0	10.0	.873	.300	4062142.	.0247	1.31	45020
45021	N	UN	15.0	10.0	.830	.292	3937973.	.0505	2.62	45022
45023	N	UN	15.0	10.0	.835	.293	3931111.	.1005	5.24	45100
45101	N	UN	15.0	10.0	.793	.285	3924874.	.1549	7.86	45102
45109	N	UN	10.0	10.0	.873	.301	4033486.	.0101	.54	45110
45111	N	UN	10.0	10.0	.875	.301	4010514.	.0251	1.34	45112
45113	N	UN	10.0	10.0	.878	.301	4010372.	.0500	2.68	
45117	N	UN	10.0	10.0	.875	.301	4019136.	.1003	5.36	49118
45119	N	UN	10.0	10.0	.879	.302	4015256.	.1498	8.04	45120
45203	N	UN	15.0	5.0	.869	.300	4019029.	.0102	.54	45204
45205	N	UN	15.0	5.0	.876	.301	4008473.	.0250	1.34	45206
45207	N	UN	15.0	5.0	.877	.301	4005939.	.0500	2.68	45208
45209	N	UN	15.0	5.0	.871	.300	3956030.	.1002	5.36	45210
45211	N	UN	15.0	5.0	.850	.298	3957187.	.1513	8.04	45212
45213	N	UN	15.0	5.0	.841	.295	3903733.	.2041	10.72	45214
45221	N	UN	10.0	5.0	.878	.302	4054475.	.0251	1.34	45222
45223	N	UN	10.0	5.0	.877	.301	4032781.	.0501	2.68	
45300	N	UN	10.0	5.0	.878	.301	4021948.	.1001	5.36	45301
45302	N	UN	10.0	5.0	.879	.302	4030474.	.1500	8.04	
45303	N	UN	10.0	5.0	.878	.301	4026973.	.2002	10.72	45304
47020	Y	UN	15.0	10.0	.859	.299	4059175.	.0249	1.31	47021
47100	Y	UN	15.0	10.0	.820	.292	3926391.	.1014	5.24	47101
47110	Y	UN	15.0	10.0	.339	.184	2577907.	.0508	1.65	47111
47112	Y	UN	15.0	10.0	.342	.185	2566091.	.1008	3.30	47113
47114	Y	UN	15.0	10.0	.342	.185	2560642.	.1512	4.95	47115
47123	N	UN	15.0	10.0	.054	.073	1030887.	.1007	1.30	47200
47206	N	UN	15.0	10.0	.123	.110	1553432.	.1006	1.96	47207
47213	N	UN	15.0	10.0	.340	.185	2606965.	.1016	3.30	47214
47217	N	UN	15.0	10.0	.479	.221	3036397.	.1008	3.93	47218
47301	N	UN	15.0	10.0	.610	.250	3408483.	.1009	4.46	47302
47305	N	UN	15.0	10.0	.760	.281	3783711.	.1003	4.99	47306
54019	N	UN	10.0	10.0	.340	.183	2632968.	.0258	.83	54020
54022	N	UN	10.0	10.0	.340	.163	2616265.	.0511	1.65	54023
54101	N	UN	10.0	10.0	.339	.183	2607326.	.1021	3.30	54102
54110	N	UN	10.0	10.0	.341	.184	2597940.	.1526	4.95	54111
54113	N	UN	10.0	10.0	.341	.184	2598267.	.2030	6.60	54114
54116	N	UN	10.0	10.0	.341	.184	2581336.	.2535	8.25	54117

TABLE 6.- Continued.

(f) Concluded.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
54216	N	UN	15.0	10.0	.340	.184	2547606.	.1514	4.95	54217
48019	N	UN	4.1	10.0	.874	.299	4215503.	.0103	.54	48020
48023	N	UN	4.1	10.0	.880	.300	4189985.	.0255	1.34	48100
48101	N	UN	4.1	10.0	.877	.299	4160141.	.0509	2.68	48102
48103	N	UN	4.1	10.0	.879	.300	4154411.	.1016	5.36	48104
48116	N	UN	13.0	2.0	.878	.299	4094662.	.0253	1.34	48117
48118	N	UN	13.0	2.0	.878	.299	4059323.	.0504	2.68	48119
48122	N	UN	13.0	2.0	.876	.299	4057706.	.1010	5.36	48123
48209	N	UN	16.0	2.0	.870	.298	4059728.	.2028	10.72	48211
48215	N	UN	14.0	2.0	.877	.300	4057579.	.0504	2.68	
48216	N	UN	14.0	2.0	.879	.300	4047826.	.1005	5.36	
48217	N	UN	14.0	2.0	.879	.300	4030080.	.2009	10.72	48218
48300	N	UN	12.5	2.0	.878	.300	4033369.	.0101	.54	
48301	N	UN	12.5	2.0	.878	.300	4011900.	.0251	1.34	
48302	N	UN	12.5	2.0	.881	.301	4009055.	.0500	2.68	
48303	N	UN	12.5	2.0	.874	.299	3996169.	.1004	5.36	
48304	N	UN	12.5	2.0	.873	.299	3980450.	.1505	8.04	
48308	N	UN	12.5	2.0	.875	.300	3998448.	.2007	10.72	48309
49110	N	UN	15.0	10.0	.339	.184	2634248.	.0257	.83	49111
49117	N	UN	15.0	10.0	.342	.185	2619356.	.0507	1.65	49118
49120	N	UN	15.0	10.0	.340	.185	2599912.	.1014	3.30	49121
49203	N	UN	15.0	10.0	.341	.185	2592737.	.1518	4.95	49204
49206	N	UN	15.0	10.0	.341	.185	2594516.	.2020	6.60	49207
49216	N	UN	4.7	10.0	.340	.184	2550439.	.0254	.83	49217
49300	N	UN	4.7	10.0	.339	.184	2535655.	.1009	3.30	49301
49307	N	UN	4.7	10.0	.342	.185	2548693.	.2005	6.60	49308
49310	N	UN	4.7	10.0	.343	.185	2543519.	.2503	8.25	49311
49023	N	UN	15.0	10.0	.338	.184	2543127.	.0101	.33	49100
50116	N	UN	4.7	10.0	.339	.183	2531156.	.0101	.33	50117
57018	N	UN	15.0	10.0	.340	.184	2555187.	.1516	4.95	57019
58018	N	UN	15.0	10.0	.338	.183	2437793.	.1495	4.95	58019
58102	N	UN	15.0	10.0	.014	.037	496703.	.0983	.65	58103
58111	N	UN	15.0	10.0	.121	.109	1528745.	.1010	1.96	58112
58120	N	UN	15.0	10.0	.340	.184	2536174.	.1511	4.95	
58121	N	UN	15.0	10.0	.340	.184	2532230.	.1007	3.30	
47022	Y	UN	15.0	10.0	.841	.296	3990015.	.0501	2.62	47023
48200	N	UN	13.0	2.0	.884	.301	4062447.	.2006	10.72	48201

TABLE 6.- Continued.

(g) NLR-1 airfoil.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
61018	N	ST	-5.0	0.0	.122	.109	1524150.	0.0000	0.00	
61019	N	ST	0.0	0.0	.123	.110	1534313.	0.0000	0.00	
61020	N	ST	5.0	0.0	.122	.110	1529490.	0.0000	0.00	
61101	N	ST	10.0	0.0	.125	.111	1537127.	0.0000	0.00	
61102	N	ST	12.0	0.0	.122	.109	1517792.	0.0000	0.00	
61103	N	ST	14.0	0.0	.122	.110	1522421.	0.0000	0.00	
61104	N	ST	15.0	0.0	.122	.110	1517668.	0.0000	0.00	
61105	N	ST	14.6	0.0	.122	.110	1511515.	0.0000	0.00	
61106	N	ST	16.5	0.0	.121	.109	1502456.	0.0000	0.00	
61107	N	ST	18.0	0.0	.123	.110	1511233.	0.0000	0.00	
61108	N	ST	20.0	0.0	.122	.110	1509433.	0.0000	0.00	
61114	N	ST	-5.0	0.0	.341	.185	2466730.	0.0000	0.00	
61115	N	ST	0.0	0.0	.342	.185	2469459.	0.0000	0.00	61116
61117	N	ST	5.0	0.0	.341	.194	2461681.	0.0000	0.00	61118
61201	N	ST	10.0	0.0	.341	.184	2434057.	0.0000	0.00	61202
61203	N	ST	12.0	0.0	.345	.185	2440090.	0.0000	0.00	61204
61205	N	ST	14.0	0.0	.344	.186	2430259.	0.0000	0.00	61206
61208	N	ST	15.4	0.0	.338	.184	2407482.	0.0000	0.00	
61212	N	ST	16.5	0.0	.342	.185	2420407.	0.0000	0.00	
61213	N	ST	18.0	0.0	.341	.184	2413757.	0.0000	0.00	61214
61215	N	ST	20.0	0.0	.342	.184	2407546.	0.0000	0.00	
61221	N	ST	-5.0	0.0	.612	.250	3195467.	0.0000	0.00	
61222	N	ST	-2.0	0.0	.614	.250	3197744.	0.0000	0.00	
61223	N	ST	0.0	0.0	.613	.250	3194392.	0.0000	0.00	
61300	N	ST	2.0	0.0	.612	.250	3191078.	0.0000	0.00	
61301	N	ST	5.0	0.0	.612	.250	3188268.	0.0000	0.00	
61306	N	ST	8.0	0.0	.616	.251	3401455.	0.0000	0.00	
61307	N	ST	10.0	0.0	.619	.251	3402068.	0.0000	0.00	
61308	N	ST	12.0	0.0	.613	.249	3381325.	0.0000	0.00	
61309	N	ST	12.5	0.0	.614	.250	3381216.	0.0000	0.00	
61310	N	ST	13.0	0.0	.610	.249	3364760.	0.0000	0.00	
61311	N	ST	14.0	0.0	.619	.251	3365628.	0.0000	0.00	
61312	N	ST	15.0	0.0	.611	.249	3361196.	0.0000	0.00	
61315	N	ST	16.0	0.0	.611	.249	3363498.	0.0000	0.00	
61316	N	ST	20.0	0.0	.612	.250	3357544.	0.0000	0.00	
61317	N	ST	25.0	0.0	.612	.250	3344638.	0.0000	0.00	
61318	N	ST	14.0	0.0	.612	.250	3349019.	0.0000	0.00	
61319	N	ST	12.5	0.0	.614	.250	3357487.	0.0000	0.00	
61400	N	ST	5.0	0.0	.613	.249	3372794.	0.0000	0.00	
61401	N	ST	0.0	0.0	.612	.250	3364756.	0.0000	0.00	
61407	N	ST	-5.0	0.0	.876	.301	3961952.	0.0000	0.00	61408
61409	N	ST	-2.0	0.0	.878	.302	3970720.	0.0000	0.00	
61410	N	ST	0.0	0.0	.877	.302	3963168.	0.0000	0.00	61411
61412	N	ST	2.0	0.0	.877	.302	3954548.	0.0000	0.00	
61413	N	ST	5.0	0.0	.879	.303	3954345.	0.0000	0.00	61414
61421	N	ST	8.0	0.0	.878	.302	3953659.	0.0000	0.00	
61422	N	ST	10.0	0.0	.869	.300	3921408.	0.0000	0.00	61423
61500	N	ST	12.0	0.0	.872	.301	3911370.	0.0000	0.00	61501
61502	N	ST	12.5	0.0	.879	.302	3915431.	0.0000	0.00	61503
61508	N	ST	12.5	0.0	.882	.302	4029504.	0.0000	0.00	61509
61510	N	ST	13.0	0.0	.882	.302	4003007.	0.0000	0.00	61511
61512	N	ST	14.0	0.0	.879	.302	3982342.	0.0000	0.00	
61513	N	ST	16.0	0.0	.877	.302	3963711.	0.0000	0.00	61514
61519	N	ST	20.0	0.0	.736	.275	3622389.	0.0000	0.00	61520
61521	N	ST	25.0	0.0	.677	.263	3459833.	0.0000	0.00	
61522	N	ST	14.0	0.0	.880	.302	3939697.	0.0000	0.00	
61523	N	ST	12.5	0.0	.870	.300	3913953.	0.0000	0.00	
61605	N	ST	5.0	0.0	.879	.302	3966363.	0.0000	0.00	
61606	N	ST	0.0	0.0	.880	.302	3960930.	0.0000	0.00	
64221	Y	ST	0.0	0.0	.341	.185	2352861.	0.0000	0.00	64222

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
64223	Y	ST	5.0	0.0	.339	.184	2345411.	0.0000	0.00	64300
64301	Y	ST	10.0	0.0	.342	.185	2349991.	0.0000	0.00	64302
64303	Y	ST	12.0	0.0	.341	.185	2346533.	0.0000	0.00	64304
64305	Y	ST	13.0	0.0	.341	.185	2344262.	0.0000	0.00	64306
64307	Y	ST	14.0	0.0	.349	.187	2370314.	0.0000	0.00	64308
64309	Y	ST	16.0	0.0	.342	.185	2345780.	0.0000	0.00	64310
64311	Y	ST	0.0	0.0	.344	.186	2355621.	0.0000	0.00	64312
65019	Y	ST	-11.0	0.0	.875	.301	3814433.	0.0000	0.00	
65020	Y	ST	-9.0	0.0	.876	.301	3804399.	0.0000	0.00	
65021	Y	ST	-7.0	0.0	.875	.301	3798094.	0.0000	0.00	
65022	Y	ST	-6.0	0.0	.874	.301	3790531.	0.0000	0.00	
65023	Y	ST	-5.0	0.0	.876	.301	3792112.	0.0000	0.00	
65100	Y	ST	0.0	0.0	.875	.301	3786607.	0.0000	0.00	
65101	Y	ST	5.0	0.0	.878	.302	3783000.	0.0000	0.00	65102
65103	Y	ST	10.0	0.0	.875	.301	3764580.	0.0000	0.00	65104
65107	Y	ST	11.9	0.0	.842	.295	3697279.	0.0000	0.00	65108
65109	Y	ST	13.0	0.0	.858	.298	3722261.	0.0000	0.00	65110
65112	Y	ST	14.0	0.0	.839	.294	3665290.	0.0000	0.00	65111
65113	Y	ST	16.0	0.0	.800	.288	3574574.	0.0000	0.00	65114
65115	Y	ST	0.0	0.0	.879	.302	3745601.	0.0000	0.00	
62020	N	US	15.0	10.0	.054	.073	968160.	.0985	1.30	62021
62104	N	US	15.0	10.0	.121	.109	1446202.	.0987	1.96	62105
62112	N	US	15.0	10.0	.340	.184	2513401.	.1003	3.30	62113
62114	N	US	15.0	10.0	.396	.199	2698892.	.1002	3.57	62115
62121	N	US	10.0	10.0	.398	.200	2557024.	.1712	6.25	
62201	N	US	15.0	5.0	.398	.200	2540409.	.2826	10.35	
62202	N	US	15.0	5.0	.396	.199	2534183.	.1710	6.25	
62208	N	US	15.0	10.0	.480	.220	2777505.	.0974	3.93	62209
62210	N	US	15.0	10.0	.612	.250	3113246.	.0972	4.46	62211
62218	N	US	15.0	10.0	.760	.280	3441981.	.0967	4.98	62219
62302	N	US	15.0	10.0	.838	.295	3859287.	.0248	1.31	62303
62304	N	US	15.0	10.0	.834	.294	3816841.	.0496	2.62	62305
62307	N	US	15.0	10.0	.835	.294	3810660.	.0991	5.24	62308
62309	N	US	15.0	10.0	.796	.287	3693269.	.1521	7.86	62310
62317	N	US	10.0	10.0	.872	.301	3725580.	.0098	.54	62318
62320	N	US	10.0	10.0	.874	.302	3704354.	.0243	1.34	62321
62322	N	US	10.0	10.0	.873	.301	3685360.	.0484	2.68	62323
62400	N	US	10.0	10.0	.878	.302	3655928.	.0965	5.36	62401
62403	N	US	10.0	10.0	.881	.303	3701055.	.1156	6.43	62404
62405	N	US	10.0	10.0	.866	.300	3656985.	.1457	8.04	62406
63018	N	US	15.0	5.0	.855	.297	3912793.	.0102	.54	
63019	N	US	15.0	5.0	.862	.299	3885789.	.0250	1.34	
63020	N	US	15.0	5.0	.862	.299	3871332.	.0499	2.68	
63021	N	US	15.0	5.0	.850	.297	3836177.	.1004	5.36	
63100	N	US	15.0	5.0	.848	.296	3831403.	.1206	6.43	
63101	N	US	15.0	5.0	.839	.295	3800952.	.1515	8.04	
63102	N	US	15.0	5.0	.812	.289	3730364.	.2054	10.72	
63108	N	US	10.0	5.0	.891	.303	3797137.	.0244	1.34	63109
63112	N	US	10.0	5.0	.873	.301	3755339.	.0976	5.36	63113
63114	N	US	10.0	5.0	.876	.302	3749040.	.1946	10.72	63115
63122	N	US	12.0	8.0	.868	.300	3740346.	.1175	6.43	63123
63208	N	US	16.4	2.0	.789	.286	3674699.	.2081	10.72	63209
63213	N	US	17.0	2.0	.790	.286	3652598.	.0519	2.68	63214
63215	N	US	17.0	2.0	.780	.284	3610518.	.1867	9.60	63216
63220	N	US	15.0	2.0	.833	.294	3728964.	.0503	2.68	63221
63302	N	US	11.1	2.0	.866	.300	3788588.	.0493	2.68	63303
63304	N	US	11.1	2.0	.876	.302	3790896.	.1955	10.72	63305
63312	N	US	2.5	10.0	.874	.302	3763317.	.0098	.54	63313
63314	N	US	2.5	10.0	.877	.302	3741348.	.0243	1.34	63315
63318	N	US	2.5	10.0	.879	.303	3756218.	.0485	2.68	63319

TABLE 6.- Continued.

(g) Concluded.

A FRAME	TRIP	TYPE	A0	A1	Q	M	FE	K	FREQ	B FRAME
63320	N	US	2.5	10.0	.878	.303	3739575.	.0969	5.36	63321
63323	N	US	2.7	10.0	.880	.303	3746774.	.0969	5.36	63400
64019	Y	US	15.0	10.0	.844	.296	3865490.	.0247	1.31	64020
64021	Y	US	15.0	10.0	.840	.295	3813567.	.0493	2.62	64022
64023	Y	US	15.0	10.0	.821	.292	3752005.	.0997	5.24	64100
64107	Y	US	15.0	10.0	.340	.185	2448919.	.0496	1.65	64108
64109	Y	US	15.0	10.0	.340	.184	2439010.	.0991	3.30	64110
64111	Y	US	15.0	10.0	.341	.185	2439626.	.1481	4.95	64112
64119	Y	US	2.5	10.0	.876	.302	3823417.	.0079	.54	64120
64121	Y	US	2.5	10.0	.875	.302	3795031.	.0244	1.34	64122
64202	Y	US	2.5	10.0	.879	.303	3794515.	.0437	2.69	64203
64204	Y	US	2.5	10.0	.878	.302	3774318.	.0474	5.36	64205
64212	Y	US	-2.0	10.0	.877	.302	3717936.	.0098	.54	
64213	Y	US	-2.0	10.0	.878	.303	3695424.	.0241	1.34	
64214	Y	US	-2.0	10.0	.878	.302	3665179.	.0482	2.68	
64215	Y	US	-2.0	10.0	.860	.303	3683703.	.0963	5.36	
65121	N	US	-2.0	10.0	.869	.300	3717371.	.0098	.54	
65122	N	US	-2.0	10.0	.873	.301	3700235.	.0243	1.34	
65123	N	US	-2.0	10.0	.874	.301	3694893.	.0495	2.63	
65200	N	US	-2.0	10.0	.877	.302	3694943.	.0968	5.36	
65207	N	US	15.0	10.0	.395	.199	2646668.	.0997	3.57	
65209	N	US	15.0	10.0	.828	.292	3775170.	.1019	5.36	
65223	N	US	7.0	5.0	.121	.109	1475396.	.0249	.49	
65300	N	US	7.0	5.0	.121	.109	1472656.	.1996	3.92	
65311	N	US	7.0	5.0	.879	.301	3862901.	.1969	10.72	
65309	N	US	7.0	5.0	.876	.301	3889117.	.0100	.54	
63222	N	US	15.0	2.0	.818	.291	3675798.	.2028	10.72	63223

TABLE 6.- Continued.

(h) NLR-7301.

A FRAME	TRIP	TYPE	A0	A1	Q	M	RE	K	FREQ	B FRAME
66019	N	ST	-5.0	0.0	.872	.300	4003817.	0.0000	0.00	66020
66021	N	ST	-2.0	0.0	.876	.300	3999020.	0.0000	0.00	
66022	N	ST	0.0	0.0	.874	.301	3992026.	0.0000	0.00	66023
66100	N	ST	2.0	0.0	.883	.302	3999963.	0.0000	0.00	
66101	N	ST	5.0	0.0	.881	.301	3967844.	0.0000	0.00	66103
66109	N	ST	8.0	0.0	.877	.300	3982368.	0.0000	0.00	
66110	N	ST	10.0	0.0	.876	.300	3958075.	0.0000	0.00	66111
66112	N	ST	12.0	0.0	.867	.299	3933468.	0.0000	0.00	66113
66114	N	ST	14.0	0.0	.772	.281	3704250.	0.0000	0.00	66115
66116	N	ST	16.0	0.0	.717	.270	3564317.	0.0000	0.00	66117
66118	N	ST	17.6	0.0	.701	.267	3510002.	0.0000	0.00	66119
66120	N	ST	18.3	0.0	.733	.274	3563933.	0.0000	0.00	66121
66122	N	ST	20.0	0.0	.737	.274	3591274.	0.0000	0.00	66123
66200	N	ST	17.0	0.0	.702	.267	3499749.	0.0000	0.00	
66201	N	ST	16.0	0.0	.709	.269	3515104.	0.0000	0.00	
66208	N	ST	5.0	0.0	.877	.300	3932765.	0.0000	0.00	
66209	N	ST	0.0	0.0	.875	.300	3922572.	0.0000	0.00	
66214	N	ST	-5.0	0.0	.609	.248	3270711.	0.0000	0.00	
66215	N	ST	0.0	0.0	.609	.249	3274639.	0.0000	0.00	
66216	N	ST	5.0	0.0	.608	.248	3259675.	0.0000	0.00	
66221	N	ST	8.0	0.0	.608	.248	3271957.	0.0000	0.00	
66222	N	ST	10.0	0.0	.610	.248	3269436.	0.0000	0.00	
66223	N	ST	12.0	0.0	.606	.247	3251575.	0.0000	0.00	
66300	N	ST	14.0	0.0	.607	.248	3245841.	0.0000	0.00	
66301	N	ST	16.0	0.0	.608	.247	3230014.	0.0000	0.00	
66302	N	ST	17.2	0.0	.610	.248	3235383.	0.0000	0.00	
66303	N	ST	20.0	0.0	.612	.249	3234835.	0.0000	0.00	
66304	N	ST	25.0	0.0	.602	.247	3196460.	0.0000	0.00	
66305	N	ST	17.0	0.0	.608	.248	3218130.	0.0000	0.00	
66306	N	ST	15.0	0.0	.612	.249	3223516.	0.0000	0.00	
66307	N	ST	14.0	0.0	.612	.249	3229433.	0.0000	0.00	
66308	N	ST	12.0	0.0	.610	.248	3226538.	0.0000	0.00	
66313	N	ST	5.0	0.0	.608	.248	3256298.	0.0000	0.00	
66314	N	ST	0.0	0.0	.606	.247	3249961.	0.0000	0.00	
66320	N	ST	-5.0	0.0	.340	.184	2469188.	0.0000	0.00	
66321	N	ST	0.0	0.0	.339	.183	2461096.	0.0000	0.00	66322
66323	N	ST	5.0	0.0	.341	.184	2463521.	0.0000	0.00	66400
66405	N	ST	8.0	0.0	.339	.183	2464083.	0.0000	0.00	
66406	N	ST	10.0	0.0	.339	.183	2457636.	0.0000	0.00	66407
66408	N	ST	12.0	0.0	.340	.184	2459029.	0.0000	0.00	66409
66410	N	ST	14.0	0.0	.340	.184	2457291.	0.0000	0.00	66411
66412	N	ST	16.0	0.0	.339	.183	2452670.	0.0000	0.00	66413
66414	N	ST	17.4	0.0	.341	.184	2455643.	0.0000	0.00	66415
66421	N	ST	20.0	0.0	.339	.183	2455231.	0.0000	0.00	66422
66423	N	ST	25.0	0.0	.338	.183	2447905.	0.0000	0.00	66500
66500	N	ST	17.0	0.0	.339	.183	2450544.	0.0000	0.00	
66501	N	ST	15.0	0.0	.339	.183	2452240.	0.0000	0.00	
66502	N	ST	14.0	0.0	.337	.183	2448905.	0.0000	0.00	
66503	N	ST	13.0	0.0	.338	.183	2449911.	0.0000	0.00	
66504	N	ST	12.0	0.0	.339	.183	2451875.	0.0000	0.00	
66510	N	ST	5.0	0.0	.338	.183	2552873.	0.0000	0.00	
66511	N	ST	0.0	0.0	.339	.183	2555680.	0.0000	0.00	
66516	N	ST	-5.0	0.0	.121	.108	1534072.	0.0000	0.00	
66517	N	ST	0.0	0.0	.122	.109	1535757.	0.0000	0.00	
66518	N	ST	5.0	0.0	.121	.109	1534265.	0.0000	0.00	
66600	N	ST	10.0	0.0	.122	.109	1527646.	0.0000	0.00	
66601	N	ST	12.0	0.0	.120	.109	1519094.	0.0000	0.00	
66602	N	ST	14.0	0.0	.120	.109	1516730.	0.0000	0.00	
66603	N	ST	16.0	0.0	.121	.108	1516123.	0.0000	0.00	
66604	N	ST	16.5	0.0	.121	.109	1517915.	0.0000	0.00	

A FRAME	TRIP	TYPE	A0	A1	Q	M	RE	K	FREQ	B FRAME
66605	N	ST	20.0	0.0	.122	.109	1517157.	0.0000	0.00	
66606	N	ST	25.0	0.0	.122	.109	1520439.	0.0000	0.00	
66607	N	ST	17.0	0.0	.122	.109	1519469.	0.0000	0.00	
66608	N	ST	15.0	0.0	.121	.108	1513500.	0.0000	0.00	
66609	N	ST	13.0	0.0	.121	.109	1513362.	0.0000	0.00	
66610	N	ST	12.0	0.0	.122	.109	1519732.	0.0000	0.00	
66611	N	ST	11.5	0.0	.122	.109	1517895.	0.0000	0.00	
66616	N	ST	5.0	0.0	.121	.109	1516191.	0.0000	0.00	
66617	N	ST	0.0	0.0	.124	.110	1528731.	0.0000	0.00	
66623	Y	ST	0.0	0.0	.337	.183	2468560.	0.0000	0.00	66700
66701	Y	ST	5.0	0.0	.338	.183	2463488.	0.0000	0.00	66702
66703	Y	ST	10.0	0.0	.338	.182	2456240.	0.0000	0.00	66704
66705	Y	ST	12.0	0.0	.338	.182	2456043.	0.0000	0.00	66706
66707	Y	ST	14.7	0.0	.338	.182	2454470.	0.0000	0.00	66708
66709	Y	ST	15.5	0.0	.343	.184	2472156.	0.0000	0.00	66710
66711	Y	ST	17.0	0.0	.337	.183	2459276.	0.0000	0.00	66712
66716	Y	ST	18.0	0.0	.338	.183	2456445.	0.0000	0.00	66717
66718	Y	ST	20.0	0.0	.338	.183	2453475.	0.0000	0.00	66719
66720	Y	ST	25.0	0.0	.337	.183	2446974.	0.0000	0.00	66721
66722	Y	ST	17.0	0.0	.343	.184	2464569.	0.0000	0.00	66723
66800	Y	ST	14.7	0.0	.339	.183	2452952.	0.0000	0.00	66801
66802	Y	ST	0.0	0.0	.341	.184	2459672.	0.0000	0.00	66803
66810	Y	ST	0.0	0.0	.871	.299	3978550.	0.0000	0.00	66811
66812	Y	ST	5.0	0.0	.873	.300	3962919.	0.0000	0.00	66813
66814	Y	ST	8.0	0.0	.875	.300	3952795.	0.0000	0.00	66815
66818	Y	ST	12.0	0.0	.845	.294	3962415.	0.0000	0.00	66819
66820	Y	ST	13.0	0.0	.820	.290	3795900.	0.0000	0.00	66821
66822	Y	ST	0.0	0.0	.874	.300	3915017.	0.0000	0.00	
67019	Y	US	15.0	10.0	.339	.183	2438650.	.0250	.83	67020
67021	Y	US	15.0	10.0	.340	.184	2433341.	.0992	3.30	67022
67023	Y	US	15.0	10.0	.340	.183	2428420.	.1985	6.60	67100
67108	Y	US	10.0	5.0	.880	.301	3809875.	.0245	1.34	67109
67110	Y	US	10.0	5.0	.862	.298	3754299.	.0494	2.69	67111
67112	Y	US	10.0	5.0	.860	.298	3743371.	.0988	5.36	67113
67120	N	US	15.0	10.0	.122	.110	1481685.	.0991	1.96	67121
67201	N	US	10.0	10.0	.122	.110	1483308.	.0992	1.96	67202
67208	N	US	10.0	10.0	.341	.184	2461921.	.0250	.83	67209
67210	N	US	10.0	10.0	.343	.185	2458942.	.0990	3.30	67211
67212	N	US	10.0	10.0	.341	.184	2452737.	.1983	6.60	67213
67218	N	US	15.0	10.0	.341	.184	2458480.	.0250	.83	67219
67220	N	US	15.0	10.0	.342	.184	2454782.	.0991	3.30	67221
67222	N	US	15.0	10.0	.342	.184	2453910.	.1981	6.60	67223
67305	N	US	15.0	10.0	.609	.248	3254400.	.0995	4.46	67306
67310	N	US	10.0	10.0	.613	.250	3264300.	.0991	4.46	67311
68019	N	US	15.0	5.0	.803	.287	3792076.	.0105	.54	68020
68100	N	US	15.0	5.0	.806	.288	3774246.	.0259	1.34	68101
68102	N	US	15.0	5.0	.796	.286	3726319.	.0521	2.68	68103
68104	N	US	15.0	5.0	.803	.287	3729996.	.1037	5.36	68105
68109	N	US	15.0	5.0	.822	.291	3787615.	.1537	8.04	68110
68111	N	US	15.0	5.0	.833	.293	3793358.	.2031	10.72	68112
68119	N	US	10.0	5.0	.853	.297	3813741.	.0101	.54	68120
68121	N	US	10.0	5.0	.860	.298	3792628.	.0245	1.34	68122
68123	N	US	10.0	5.0	.863	.299	3791082.	.0495	2.69	68200
68201	N	US	10.0	5.0	.872	.300	3905465.	.0955	5.36	68202
68203	N	US	10.0	5.0	.882	.302	3824398.	.1956	10.72	68204
68211	N	US	5.0	5.0	.869	.299	3842765.	.1981	10.72	68212
68219	N	US	12.0	2.0	.843	.295	3766519.	.0502	2.68	68220
68221	N	US	12.0	2.0	.834	.293	3725832.	.1007	5.36	68303
68304	N	US	12.0	2.0	.835	.293	3722222.	.2012	10.72	68305
69019	N	US	10.0	10.0	.871	.299	3949663.	.0101	.54	69020

TABLE 6.- Concluded.

(h) Concluded.

A FRAME	TRIP	TYPE	AO	A1	Q	M	RE	K	FREQ	B FRAME
69100	N	US	10.0	10.0	.873	.300	3918788.	.0249	1.34	69101
69102	N	US	10.0	10.0	.876	.300	3900063.	.0496	2.68	69103
69105	N	US	10.0	10.0	.877	.301	3904003.	.0991	5.36	69106
69107	N	US	10.0	10.0	.876	.300	3884160.	.1484	8.04	69108
69119	N	US	16.8	2.0	.727	.273	3492462.	.0270	1.34	69120
69121	N	US	16.8	2.0	.710	.270	3420737.	.0546	2.68	69122
69123	N	US	16.8	2.0	.700	.268	3396634.	.1100	5.36	69200
69201	N	US	16.8	2.0	.692	.267	3366733.	.2208	10.72	69202
69206	N	US	17.2	2.0	.734	.275	3465351.	.0268	1.34	69207
69208	N	US	17.2	2.0	.745	.277	3469110.	.0530	2.68	69209
69211	N	US	17.2	2.0	.709	.270	3370669.	.1086	5.36	69212
69213	N	US	17.2	2.0	.719	.272	3387722.	.1616	8.04	69214
69215	N	US	17.2	2.0	.755	.279	3459727.	.2098	10.72	69216
69221	N	US	17.5	2.0	.726	.273	3404711.	.0536	2.68	69222
69223	N	US	17.5	2.0	.654	.265	3225912.	.2205	10.72	69300
69304	N	US	18.5	2.0	.689	.266	3255767.	.0549	2.68	69305
69310	N	US	16.5	2.0	.671	.262	3218013.	.0554	2.68	69311
70019	N	US	9.4	10.0	.341	.185	2344107.	.0245	.83	70020
70021	N	US	9.4	10.0	.340	.185	2330519.	.0973	3.30	70022
70023	N	US	9.4	10.0	.340	.185	2336677.	.1948	6.60	70100
70107	N	US	5.7	10.0	.675	.301	3916444.	.0104	.56	70108
70109	N	US	5.7	10.0	.676	.301	3876178.	.0247	1.34	70110
70113	N	US	5.7	10.0	.672	.300	3861569.	.0495	2.68	70114
70115	N	US	5.7	10.0	.875	.301	3854554.	.0936	5.36	70116
70117	N	US	5.7	10.0	.874	.301	3943662.	.1479	8.04	70118

TABLE 7.- LIST OF STATIC DATA

Airfoil[a]	M_∞	First frame	Last frame	No. of frames	α_{min}	α_{max}	Figure
N-0012	0.30	04019	04412	24	-5.0	20.0	
	.30	11018	11309	33	-5.0	30.0	9,12,16
	.30	12102	(quasi-steady)		-5.0	15.0	16
	.28	12109			-4.0	16.0	
	.28	13222			10.1	29.9	
	.27	12020			10.1	29.9	
	.26	12118			10.1	29.9	
	.25	12208			-3.0	17.0	
	.25	13303			-3.0	17.0	
	.23	12203			10.1	29.9	
	.22	13308			-3.0	17.0	
	.22	13310			-3.0	17.0	
	.20	12300			10.1	29.9	
	.18	12310			-3.0	17.0	
	.17	12305			10.1	29.9	
	.11	13021			-3.0	17.0	
	.11	13107			10.1	29.9	
	.07	13120			-3.0	17.0	
	.07	13115			10.1	29.9	
	.04	13205			-5.0	15.0	
	.04	13217			10.1	29.9	
N-0012T	.29	13321			-3.0	17.0	
N-0012T	.18	13313			-3.0	17.0	
Ames-01	.30	26020	26307	23	-5.0	25.0	17
Ames-01	.25	26313	27117	22	-5.0	25.0	
Ames-01	.18	27123	27318	22	-5.0	25.0	
Ames-01	.11	27400	28120	21	-5.0	25.0	
Ames-01T	.30	28312	28410	9	0.0	16.0	
Ames-01T	.19	28207	28304	10	0.0	20.0	
FX-098	.30	20118	20322	21	-5.0	25.0	18
FX-098	.25	19314	20112	22	-5.0	25.0	
FX-098	.18	19020	19308	23	-5.0	25.0	
FX-098	.11	18215	18502	23	-5.0	25.0	10

Airfoil[a]	M_∞	First frame	Last frame	No. of frames	α_{min}	α_{max}	Figure
FX-098T	0.30	17208	17314	8	0.0	20.0	
FX-098T	.18	18019	18206	10	0.0	20.0	
SC-1095	.30	35021	35214	17	-5.0	16.0	19
SC-1095	.25	35220	35401	20	-5.0	25.0	
SC-1095	.18	36019	36120	10	-5.0	20.0	
SC-1095	.11	36202	36218	11	-5.0	20.0	
SC-1095T	.30	34022	34115	8	0.0	16.0	
SC-1095T	.18	34200	34214	7	0.0	16.0	
HH-02	.30	40222	41103	20	-5.0	20.0	20
HH-02	.25	41110	41215	20	-5.0	20.0	
HH-02	.18	40114	40215	10	-5.0	20.0	
HH-02	.11	40018	40108	11	-5.0	20.0	
HH-02T	.30	41221	41314	8	0.0	16.0	
HH-02T	.18	41401	41419	10	0.0	16.0	
VR-7	.30	46418	46615	18	-5.0	25.0	11,21
VR-7	.25	46307	46412	19	-5.0	25.0	
VR-7	.18	46116	46301	13	-5.0	25.0	
VR-7	.11	46018	46110	13	-5.0	25.0	
VR-7T	.30	46802	46823	10	0.0	20.0	
VR-7T	.18	46621	46718	10	0.0	20.0	
NLR-1	.30	61407	61606	19	-5.0	25.0	22
NLR-1	.25	61221	61401	19	-5.0	25.0	
NLR-1	.18	61114	61215	10	-5.0	20.0	
NLR-1	.11	61018	61108	11	-5.0	20.0	
NLR-1T	.30	65019	65115	13	-11.0	16.0	
NLR-1T	.18	64221	64311	8	0.0	16.0	
NLR-7301	.30	66019	66209	17	-5.0	20.0	23
NLR-7301	.25	66214	66314	17	-5.0	25.0	
NLR-7301	.18	66320	66511	18	-5.0	25.0	
NLR-7301	.11	66516	66617	17	-5.0	25.0	
NLR-7301T	.30	66810	66822	6	0.0	13.0	
NLR-7301T	.18	66623	66802	13	0.0	25.0	

[a]T = trip.

TABLE 8.- MACH NUMBER SWEEP AT $\alpha = 15° + 10° \sin \omega t$, $k = 0.10$

M_∞[a]	NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1	NLR-7301
0.035	8102		16019			58102		
.07	8114	24323	16105	33022	42121	47123	62020	
.11	8214	24314	16114	33106	42321	47206 58111	62104	67120
.18	8220	24217 31209	16200	33110	42302	47213 58121	62112	67220
.18T	14021 14106	29117	17103	34321	42110	47112	64109	67021
.20							62114 65207	
.22	9202	24209	16300	33205	42309	47217	62208	
.25	9203	24201	16308	33207	42313	47301	62210	67305
.28	9208	24117	22208	33215	42218	47305	62218	
.29	9217 14220	24105	22201	33300	42210	45023	62307 65209	
.29T	14208 14210	29106	17200	34308	42100	47100	64023	

[a]T = trip.

TABLE 9.- FREQUENCY SWEEP AT $M_\infty = 0.29$, $\alpha = 15° + 10° \sin \omega t$

k[a]	NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1	NLR-7301
0.01	9210	30019 30020	21100	38300				
.025	9213 14218	24022	22023	33217	42206	45019	62302	
.025T	14117 14200	29023	17117		42019	47020	64019	
.05	9214 14219	24100	22103	33222	42208	45021	62304	
.05T	14119 14202	29101	17119	34306	42021	47022	64021	
.10	9217 14220	24105	22201	33300	42210	45023	62307 65209	
.10T	14208 14210	29106	17200	34308	42100	47100	64023	
.15	9218	24109	22206	34409	42212 42217	45101	62309	

[a]T = trip.

TABLE 10.- FREQUENCY SWEEP AT $M_\infty = 0.30$, $\alpha = 10^\circ + 10^\circ \sin \omega t$

k	NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1	NLR-7301
0.01	9221	30105	21107	38306	43019	45109	62317	69019
.025	9222	25022 31102	22216	37023	43106	45111	62320	69100
.05	9223	25102 31104	22217	37101	43108	45113	62322	69102
.10	9302	25104	22218	37107	43112	45117	62400	69105
.12							62403	
.15	9307	25109 31110 31112	22219	37109	43114 43117	45119	62405	69107

TABLE 11.- FREQUENCY SWEEP AT $M_\infty = 0.30$, $\alpha = 15^\circ + 5^\circ \sin \omega t$

k	NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1	NLR-7301
0.01	10113	30110	21112	39104		45203	63018	68019
.025	10114	25204	23021	38021	43303	45205	63019	68100
.05	10117	25205	23022	38022	43304	45207	63020	68102
.10	10118	25208	23023	38102	43305	45209	63021	68104
.12							63100	
.15	10120	25209	23100	38103	43308	45211	63101	68109
.20	10123	25210	23101	38104	43309	45213	63102	68111

TABLE 12.- FREQUENCY SWEEP AT $M_\infty = 0.30$, $\alpha = 10^\circ + 5^\circ \sin \omega t$

k	NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1	NLR-7301	NLR-7301T
0.01	10202	30119	21200	39107	44019			68119	
.025	7112 10203	25117	22307	37207	44021 44119	45221	63108	68121	67108
.05	7222 10204	25118	22308	37208	44023	45223		68123	67110
.075	10207								
.10	7113 10208	25119	22309	37210	44104 44118	45300	63112	68201	67112
.15	7300 10211	25121 25122	22311	37213	44106	45302			
.20	7114 10212	25123	22312	37215	44112 44120	45303	63114	68203	

TABLE 13.- STALL ONSET AT $M_\infty = 0.30$, $\alpha = \alpha_o + 10° \sin \omega t$, $k = 0.10$

NACA 0012, $\alpha_o = 3.8°$	A-01, $\alpha_o = 5.5°$	FX-098, $\alpha_o = 3.8°$	SC-1095, $\alpha_o = 4.4°$	HH-02, $\alpha_o = 4.0°$	VR-7, $\alpha_o = 4.6°$	NLR-1, $\alpha_o = 2.7°$	NLR-7301, $\alpha_o = 5.7°$
10305	25319	23201	34418	43219		63323	70115

TABLE 14.- STALL SUPPRESSION AT $M_\infty = 0.30$, $\alpha = \alpha_o + 10° \sin \omega t$

k	NACA 0012	A-01, $\alpha_o = 5.0°$	FX-098, $\alpha_o = 3.3°$	SC-1095, $\alpha_o = 4.1°$	HH-02, $\alpha_o = 3.8°$	VR-7, $\alpha_o = 4.1°$	NLR-1,[a] $\alpha_o = 2.5°$	NLR-7301, $\alpha_o = 5.7°$
0.01		29205	21208	39021	43215	48019	63312	70107
.025		31119			43202	48023	63314	70109
.05		29207 31121	23206	37119	43204	48101	63318	70113
.10		25311 29211 31123	23208	37121	43206	48103	63320	70115
.15		29213 29215 31201	23211	37123	43209			70117

[a]See table 19.

TABLE 15.- STALL SUPPRESSION AT $M_\infty = 0.18$, $\alpha = \alpha_o + 10° \sin \omega t$

k	NACA 0012, $\alpha_o = 8.0°$	A-01, $\alpha_o = 7.5°$	FX-098, $\alpha_o = 6.5°$	SC-1095, $\alpha_o = 6.2°$	HH-02	VR-7, $\alpha_o = 4.7°$	NLR-1	NLR-7301, $\alpha_o = 9.4°$
0.01	9110	30215	21219			50116		
.025						49216		70019
.05	9112	24302 31215	16213	33118				
.10						49300		70021
.20	9118	24306 31217	16215	33121		49307		70023
.25						49310		

TABLE 16.- PITCH DAMPING STUDIES AT $M_\infty = 0.30$, $\alpha = \alpha_o + 2° \sin \omega t$

NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1	NLR-7301[a]
				k = 0.01			
	$\alpha_o = 14.0°$ 30206		$\alpha_o = 14.0°$ 39115	$\alpha_o = 12.5°$ 44221	$\alpha_o = 12.5°$ 48300		
				$\alpha_o = 15.5°$ 44212			
				k = 0.025			
				$\alpha_o = 12.5°$ 44222	$\alpha_o = 12.5°$ 48301		$\alpha_o = 16.8°$ 69119
				$\alpha_o = 15.5°$ 44214	$\alpha_o = 13.0°$ 48116		$\alpha_o = 17.2°$ 69206
				k = 0.05			
				$\alpha_o = 12.5°$ 44223	$\alpha_o = 12.5°$ 48302	$\alpha_o = 11.1°$ 63302	$\alpha_o = 16.5°$ 69310
				$\alpha_o = 15.5°$ 44215	$\alpha_o = 13.0°$ 48118	$\alpha_o = 15.0°$ 63220	$\alpha_o = 16.8°$ 69121
					$\alpha_o = 14.0°$ 48215	$\alpha_o = 17.0°$ 63213	$\alpha_o = 17.2°$ 69208
							$\alpha_o = 17.5°$ 69221
							$\alpha_o = 18.5°$ 69304
				k = 0.10			
				$\alpha_o = 12.5°$ 44300	$\alpha_o = 12.5°$ 48303		$\alpha_o = 16.8°$ 69123
				$\alpha_o = 14.0°$ 44202	$\alpha_o = 13.0°$ 48122		$\alpha_o = 17.2°$ 69211
				$\alpha_o = 15.5°$ 44216	$\alpha_o = 14.0°$ 48216		

TABLE 16.- Concluded.

NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1	NLR-7301[a]
				$k = 0.15$			
	$\alpha_o = 14.5°$ 31310			$\alpha_o = 12.5°$ 44303	$\alpha_o = 12.5°$ 48304		$\alpha_o = 17.2°$ 69213
				$\alpha_o = 15.5°$ 44217			
				$k = 0.20$			
	$\alpha_o = 13.5°$ 29223	$\alpha_o = 12.0°$ 23219	$\alpha_o = 12.3°$ 38201	$\alpha_o = 12.5°$ 44304	$\alpha_o = 12.5°$ 48308	$\alpha_o = 11.1°$ 63304	$\alpha_o = 16.8°$ 69201
	$\alpha_o = 14.5°$ 29304 31302	$\alpha_o = 14.0°$ 23305	$\alpha_o = 14.0°$ 38119	$\alpha_o = 14.0°$ 44204	$\alpha_o = 13.0°$ 48200	$\alpha_o = 15.0°$ 63222	$\alpha_o = 17.2°$ 69215
		$\alpha_o = 16.0°$ 23310	$\alpha_o = 16.0°$ 38110	$\alpha_o = 15.5°$ 42218	$\alpha_o = 14.0°$ 48217	$\alpha_o = 16.4°$ 63208	$\alpha_o = 17.5°$ 69223
	$\alpha_o = 16.5°$ 29309			$\alpha_o = 17.5°$ 44209	$\alpha_o = 16.0°$ 48209	$\alpha_o = 17.0°$ 63215	

[a]See table 19.

TABLE 17.- NO SEPARATION: $M_\infty = 0.30$, $\alpha = 5° + 5° \sin \omega t$

k	NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1[a]	NLR-7301[a]
0.01	10218							
.10	10221	25301	23107					
.20	10222	25303	23109					68211

[a]See table 19.

TABLE 18.- DYNAMIC BOUNDARY-LAYER TRIP DATA

M_∞	k	NACA 0012	A-01	FX-098	SC-1095	HH-02	VR-7	NLR-1	NLR-7301
0.18	0.05	14019 14104	29115	17100	34318	42108	47110	64107	67019
.18	.10	14021 14106	29117	17103	34321	42110	47112	64109	67021
.18	.15	14023 14108	29119	17109	34323	42113	47114	64111	
.18	.20								67023
.30	.025	14117 14200	29023	17117		42019	47020	64019[a]	(a)
.30	.05	14119 14202	29101	17119	34306	42021	47022	64021[a]	(a)
.30	.10	14208 14210	29106	17200	34308	42100	47100	64023[a]	(a)

[a]See table 19.

TABLE 19.- MISCELLANEOUS DYNAMIC DATA

Airfoil	Frame	M_∞	α_o	α_1	k	Remarks
N-0012	8019	0.035	10.0	10.0	0.10	Low Reynolds number, 0.5×10^6
	8021	.035	10.0	10.0	.15	
	8023	.035	10.0	10.0	.25	
	8104	.035	15.0	10.0	.15	
	8106	.035	15.0	14.0	.10	
	8116	.07	15.0	10.0	.15	Match reference 3
	8118	.07	15.0	10.0	.25	
	8123	.07	15.0	14.0	.10	Match reference 3
	8203	.07	10.0	10.0	.25	
	8210	.11	10.0	10.0	.25	
	8222	.18	15.0	10.0	.15	Match reference 3
	8306	.18	15.0	14.0	.10	Match reference 3
	9022	.18	15.0	6.0	.24	Match reference 3
	9101	.18	15.0	5.0	.29	
	9106	.18	10.0	10.0	.25	
	7108	.30	8.0	5.0	.025	Variable α_o
	7110		8.0		.10	
	7111		8.0		.20	
	7216		8.8		.05	
	7214		8.8		.10	
	7212		8.8		.15	
	7104		9.0		.025	
	7019		9.0		.05	
	7021		9.0		.10	
	7101		9.0		.15	
	7023		9.0		.20	
			10.0		See table 17	
	7117		11.0		.025	
	7118		11.0		.05	
	7119		11.0		.10	
	7120		11.0		.15	
	7121		11.0		.20	
	7200		12.0		.025	
	7202		12.0		.05	
	7205		12.0		.10	
	7305		12.0		.15	
	7207		12.0		.20	
			15.0		See table 16	
	10309		2.8	10.0	.10	
	10305		3.8			
	10303		5.0			
	9302		10.0			
	10022		12.0			
	9217	.29	15.0			
	14220	.29	15.0			
	10101	.27	20.0			
	10104	.30	12.0	8.0	.05	Match reference 17
	10105	.30	12.0	8.0	.10	Match reference 17
	10108	.30	12.0	8.0	.13	Match reference 17
	15218	.29	15.0	10.0	.10	Pressure orifices closed

TABLE 19.- Continued.

Airfoil	Frame	M_∞	α_o	α_1	k	Remarks
N-0012	Many	Variable	Variable	10.0	0.001	Quasi-static; see table 12
W-098	23117	0.30	5.0	10.0	.10	
Ames-01	30201		11.0	5.0	.01	
Ames-01	25214				.05	
Ames-01	25216				.10	
SC-1095	39110				.01	
	37219				.05	
	37221				.10	
	37304		12.0	8.0	.05	Match reference 18
	37305		12.0	8.0	.10	Match reference 18
	37306		12.0	8.0	.13	Match reference 18
HH-02	43314		11.0	5.0	.025	
HH-02	43315		11.0	5.0	.05	
HH-02	43316		11.0	5.0	.10	
VR-7	54019	.18	10.0	10.0	.025	
	54022		10.0		.05	
	54101		10.0		.10	
	54110		10.0		.15	
	54113		10.0		.20	
	54116		10.0		.25	
	49023		15.0		.01	
	49110				.025	
	49117				.05	
	49120				.10	
	58121				.10	
	49203				.15	
	54216				.15	
	57018				.15	
	58018				.15	
	58120				.15	
	49206				.20	
NLR-1	65223	.11	7.0	5.0	.025	No separation
	65300	.11	7.0	5.0	.20	No separation
	62114	.20	15.0	10.0	.10	
	65207	.20	15.0	10.0	.10	
	62121	.20	10.0	10.0	.17	Match reference 19
	62202	.20	15.0	5.0	.17	
	62201	.20	15.0	5.0	.28	
	62403	.30	10.0	10.0	.12	
	63100		15.0	5.0	.12	
	63122		12.0	8.0	.12	
	65309		7.0	5.0	.01	No separation
	65311		7.0	5.0	.20	No separation
	65121		−2.0	10.0	.01	Stall at negative α
	65122				.025	Stall at negative α
	65123				.05	Stall at negative α
	65200				.10	Stall at negative α
NLR-1T	64212				.01	Trip; stall at negative α
NLR-1T	64213				.025	Trip; stall at negative α
NLR-1T	64214				.05	Trip; stall at negative α

TABLE 19.- Concluded.

Airfoil	Frame	M_∞	α_o	α_1	k	Remarks
NLR-1T	64215	0.30	-2.0	10.0	0.10	Trip; stall at negative α
NLR-1T	64119	.30	2.5		.01	Trip; stall suppression
NLR-1T	64121	.30	2.5		.025	Trip; stall suppression
NLR-1T	64202	.30	2.5		.05	Trip; stall suppression
NLR-1T	64204	.30	2.5		.10	Trip; stall suppression
NLR-7	67201	.11	10.0		.10	
	67208	.18	10.0		.025	
	67210	.18	10.0		.10	
	67212	.18	10.0		.20	
	67218	.18	15.0		.025	
	67220	.18	15.0		.10	
	67222	.18	15.0		.20	
	67310	.25	10.0		.10	
	68219	.30	12.0	2.0	.05	No separation
	68221	.30	12.0	2.0	.10	No separation
	68304	.30	12.0	2.0	.20	No separation
NLR-7T	67108	.30	10.0	5.0	.025	Trip
NLR-7T	67110	.30	10.0	5.0	.05	Trip
NLR-7T	67112	.30	10.0	5.0	.10	Trip

TABLE 20.- TEST CASES FOR NUMERICAL ANALYSIS (ref. 1)

Case	Frame	Airfoil	α_0	α_1	k	Case	Frame	Airfoil	α_0	α_1	k
1	10222	NACA 0012	5	5	0.20	7	10212	NACA 0012	10	5	0.20
2	68211	NLR-7301	5			8	9302		10	10	.10
3	7111	NACA 0012	8			9	10113		15	5	.01
4	68203	NLR-7301	10				10114				.025
5	7023	NACA 0012	9				10117				.05
6	45221	VR-7	10		.025		10118				.10
	45223				.05		10120				.15
	45300				.10		10123				.20
	45302				.15	10	45203	VR-7			.01
	45303				.20		45205				.025
7	10202	NACA 0012			.01		45207				.05
	10203				.025		45209				.10
	10204				.05		45211				.15
	10208				.10		45213				.20
	10211				.15						

TABLE 21.- ARCHIVED TAPE ASSIGNMENT

Airfoil	Tape number
NACA 0012	03462B
Ames A-01	C1065C
Wortmann FX 69-H-098	C1064C
Hughes HH-02 (with tab)	C1066C
Sikorsky SC-1095	C1067C
Vertol VR-7 (with tab)	03469B
NLR-1	C1069C
NLR-7301	C1074C

TABLE 22.- MAGNETIC TAPE ATTRIBUTES

Unlabeled file sequence
2400-ft reel
9 Track
1600 Bits/in.
Odd parity
EBCDIC mode
Blocked (4000 bytes — 50 records)
Fixed-length records (80 bytes)
Formatted data

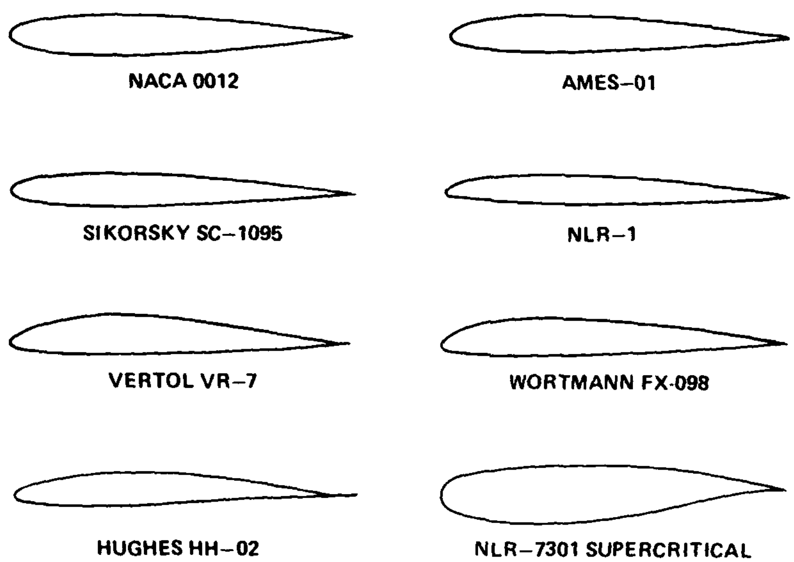
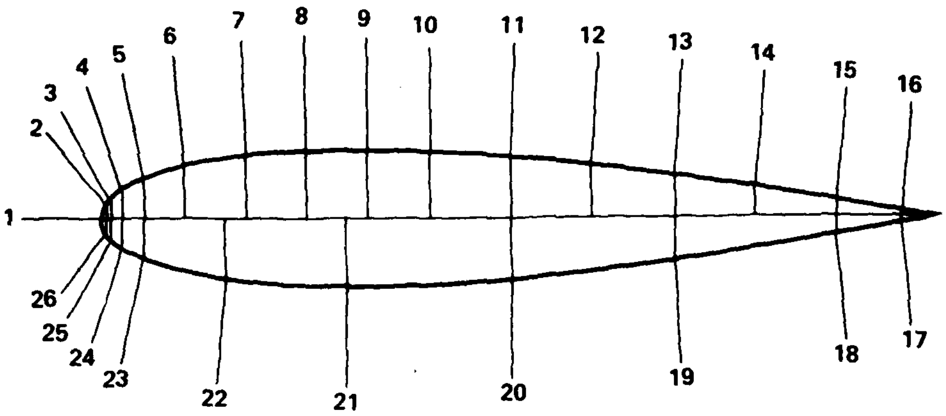


Figure 1.- Airfoil profiles tested.



NOMINAL LOCATIONS OF PRESSURE TRANSDUCERS

1:0.000	5:0.050	9:0.325	13:0.700	17:0.980	21:0.300	25:0.010
2:0.005	6:0.100	10:0.400	14:0.800	18:0.900	22:0.150	26:0.005
3:0.010	7:0.175	11:0.500	15:0.900	19:0.700	23:0.050	
4:0.025	8:0.250	12:0.600	16:0.980	20:0.500	24:0.025	

Figure 2.- Upper and lower surface-pressure transducer locations.

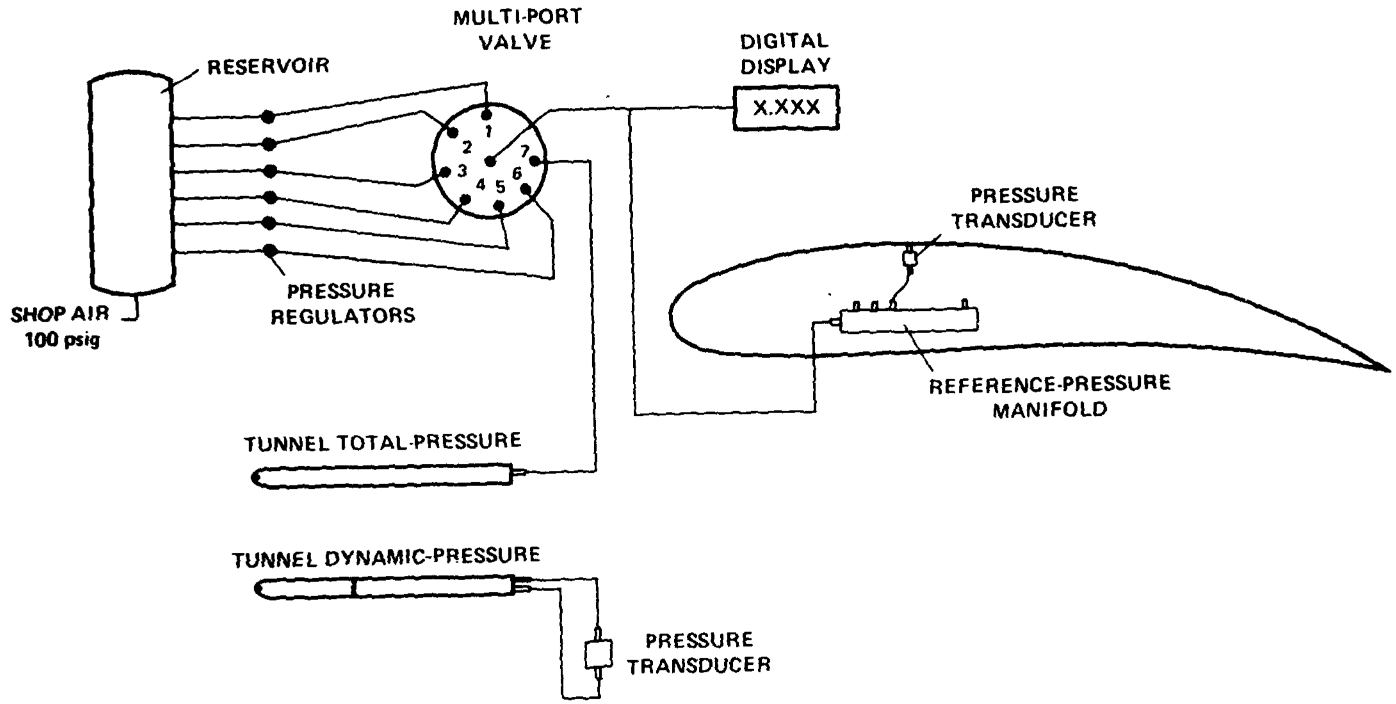


Figure 3.- Plumbing for reference pressures.

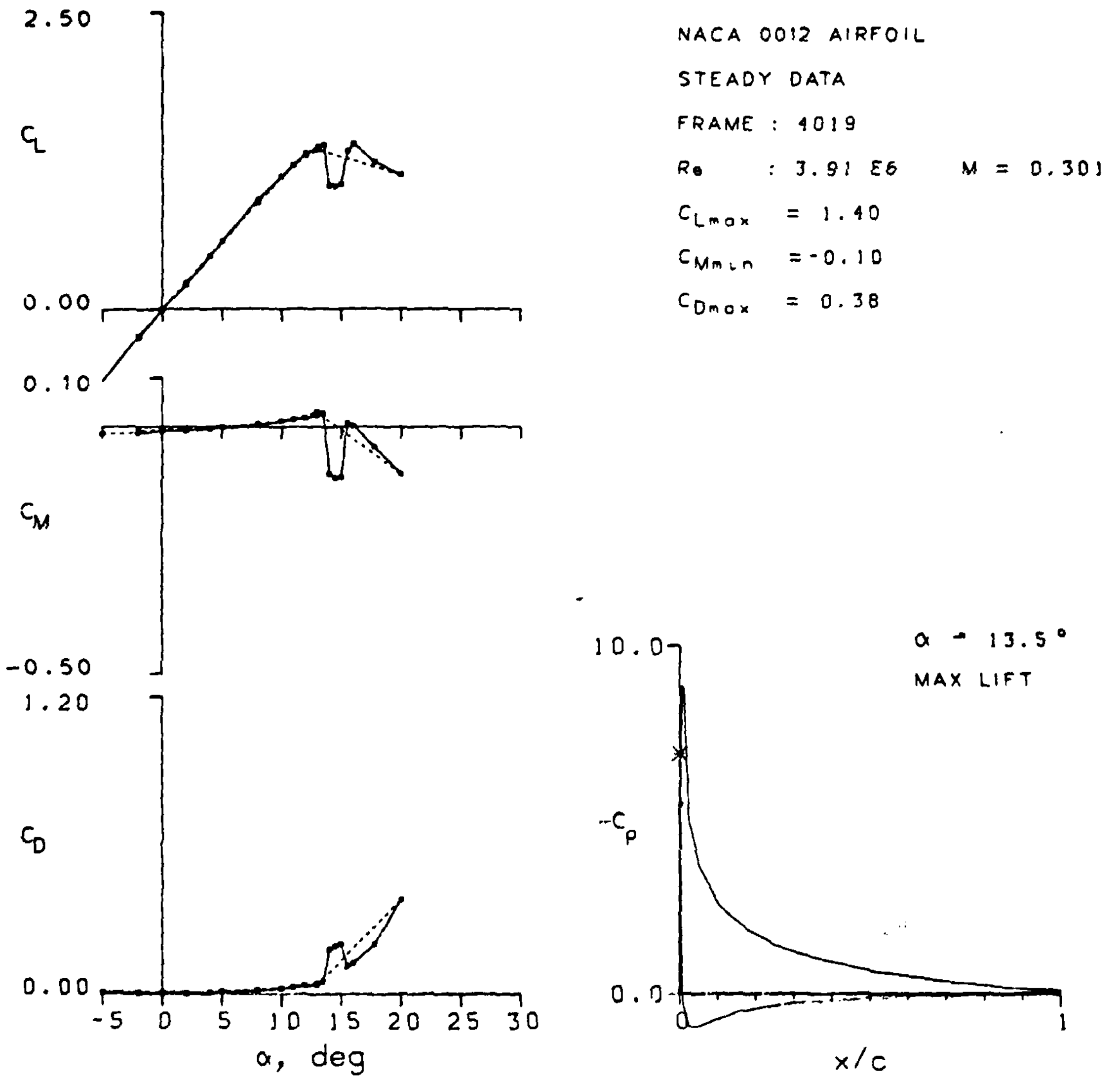


Figure 4.- Static data for NACA 0012 *airfoil*.

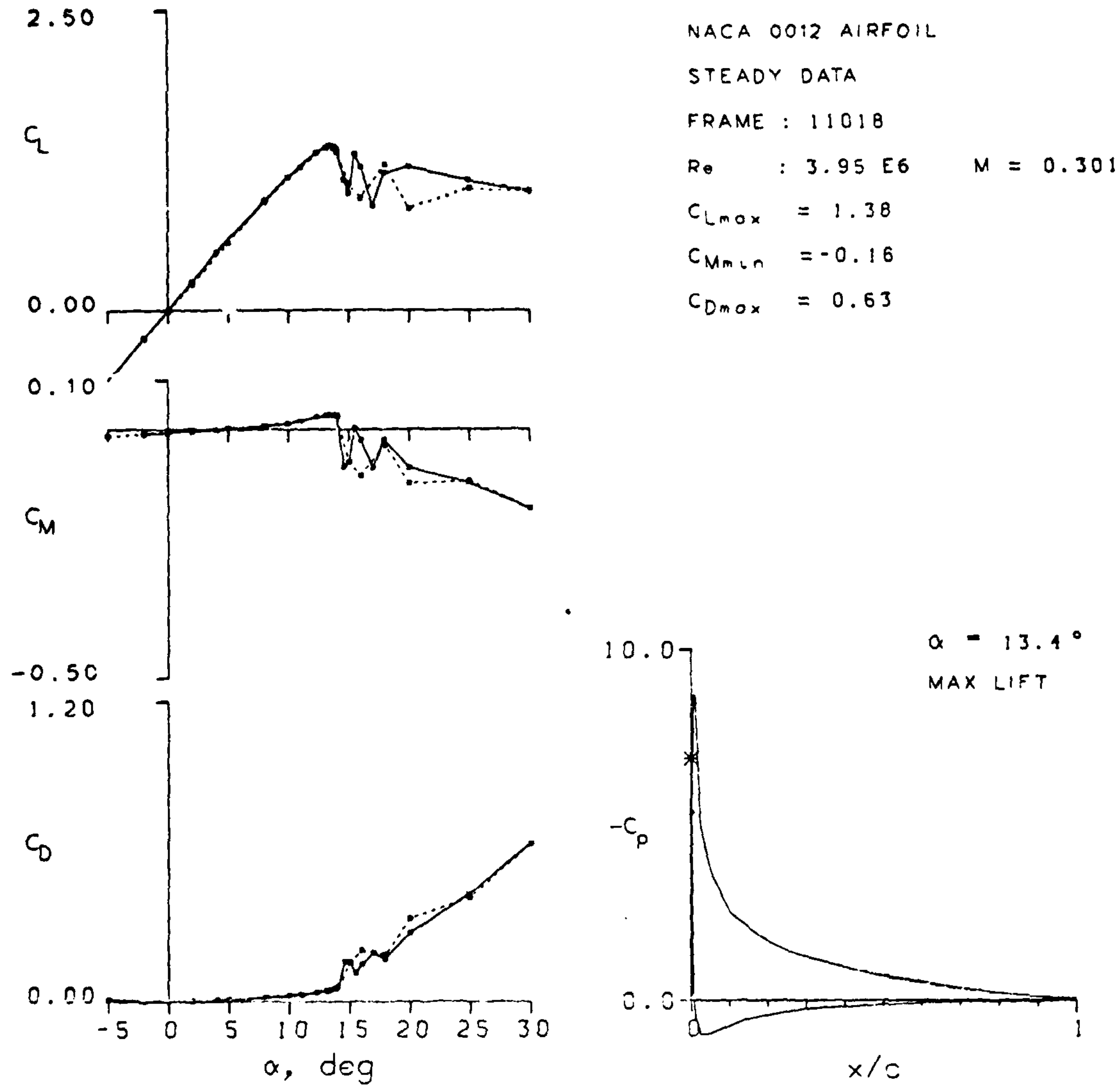


Figure 4.- Concluded.

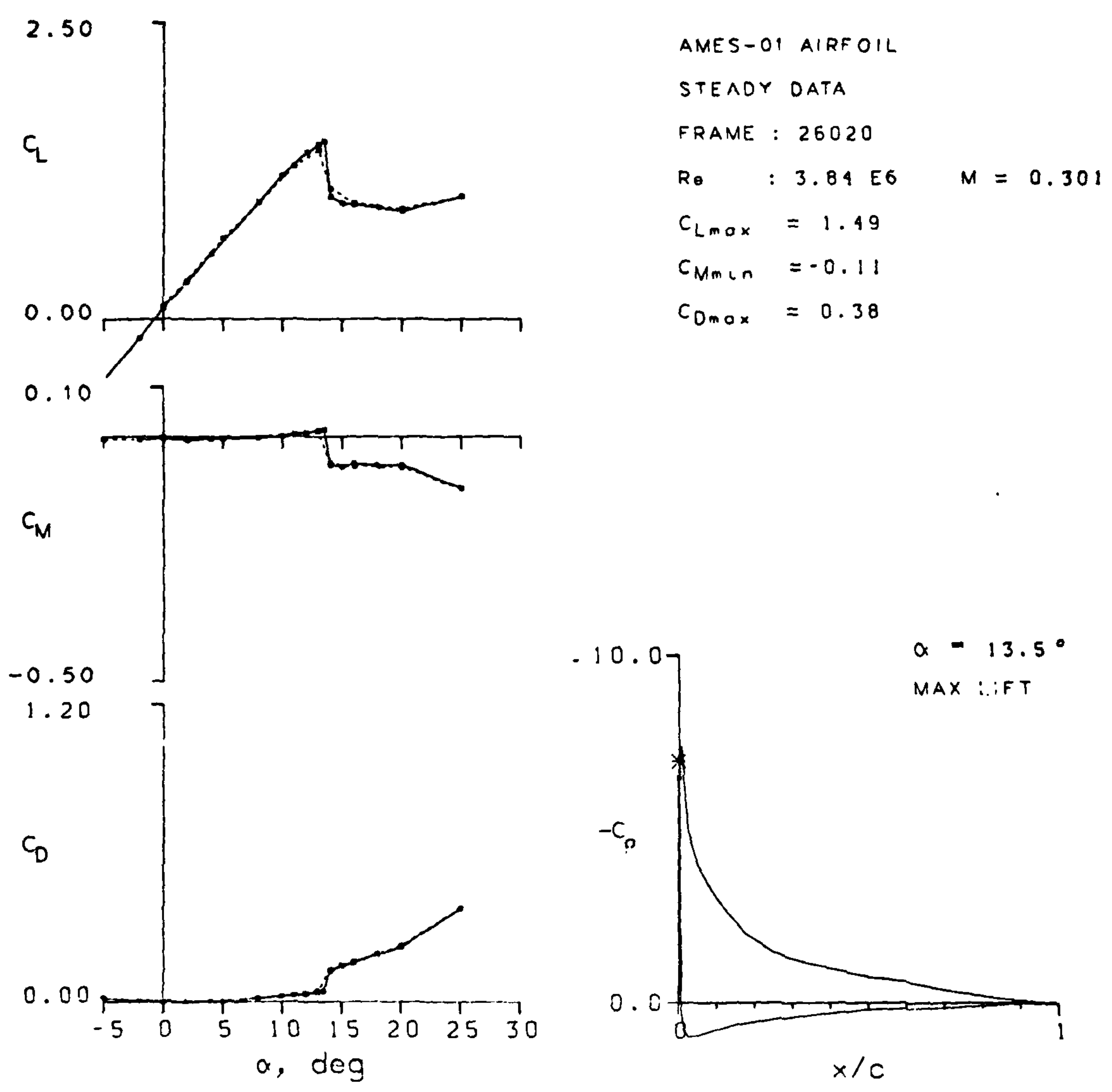


Figure 5.- Static data for Ames A-01 airfoil.

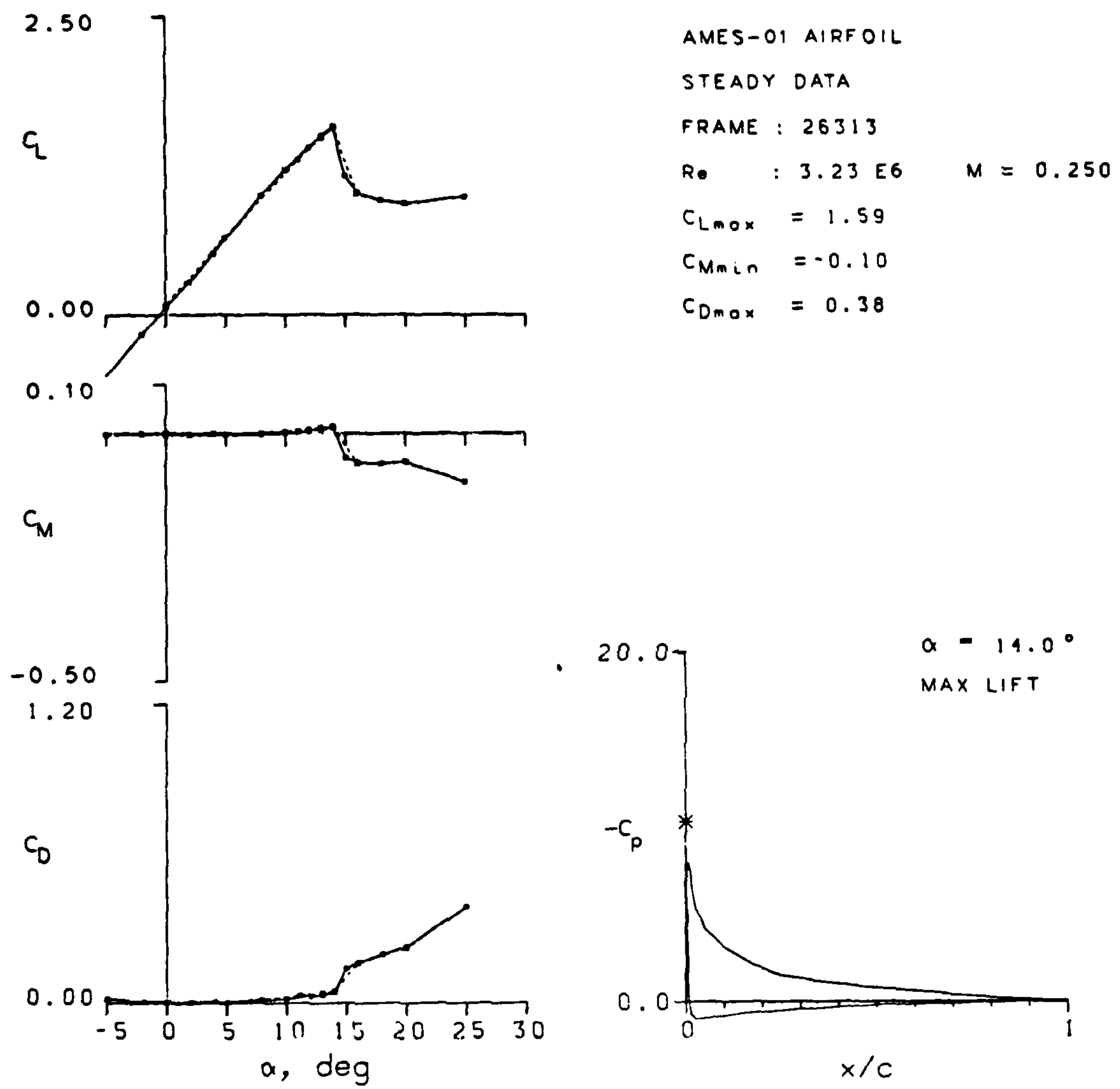


Figure 5.- Continued.

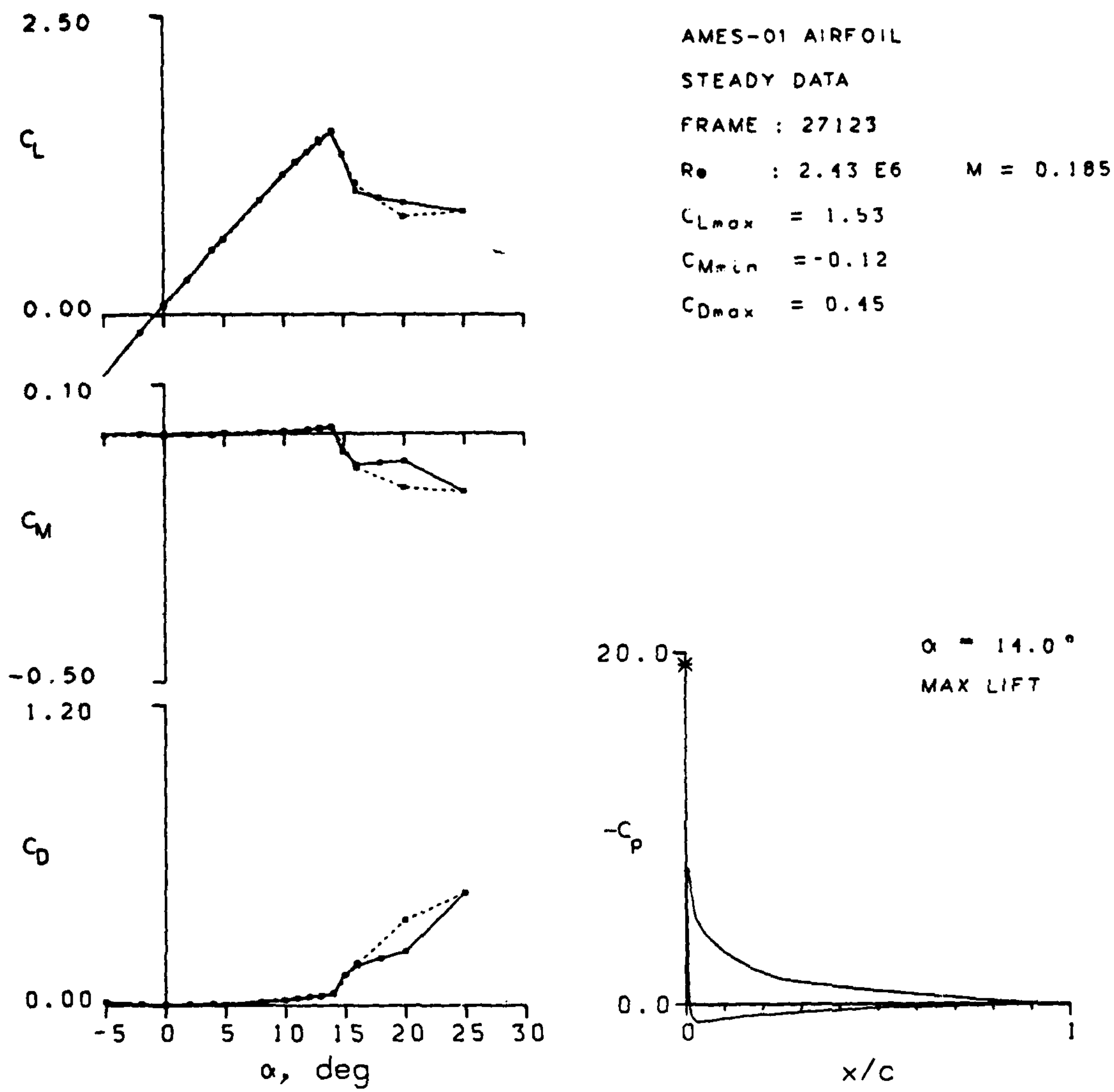


Figure 5.- Continued.

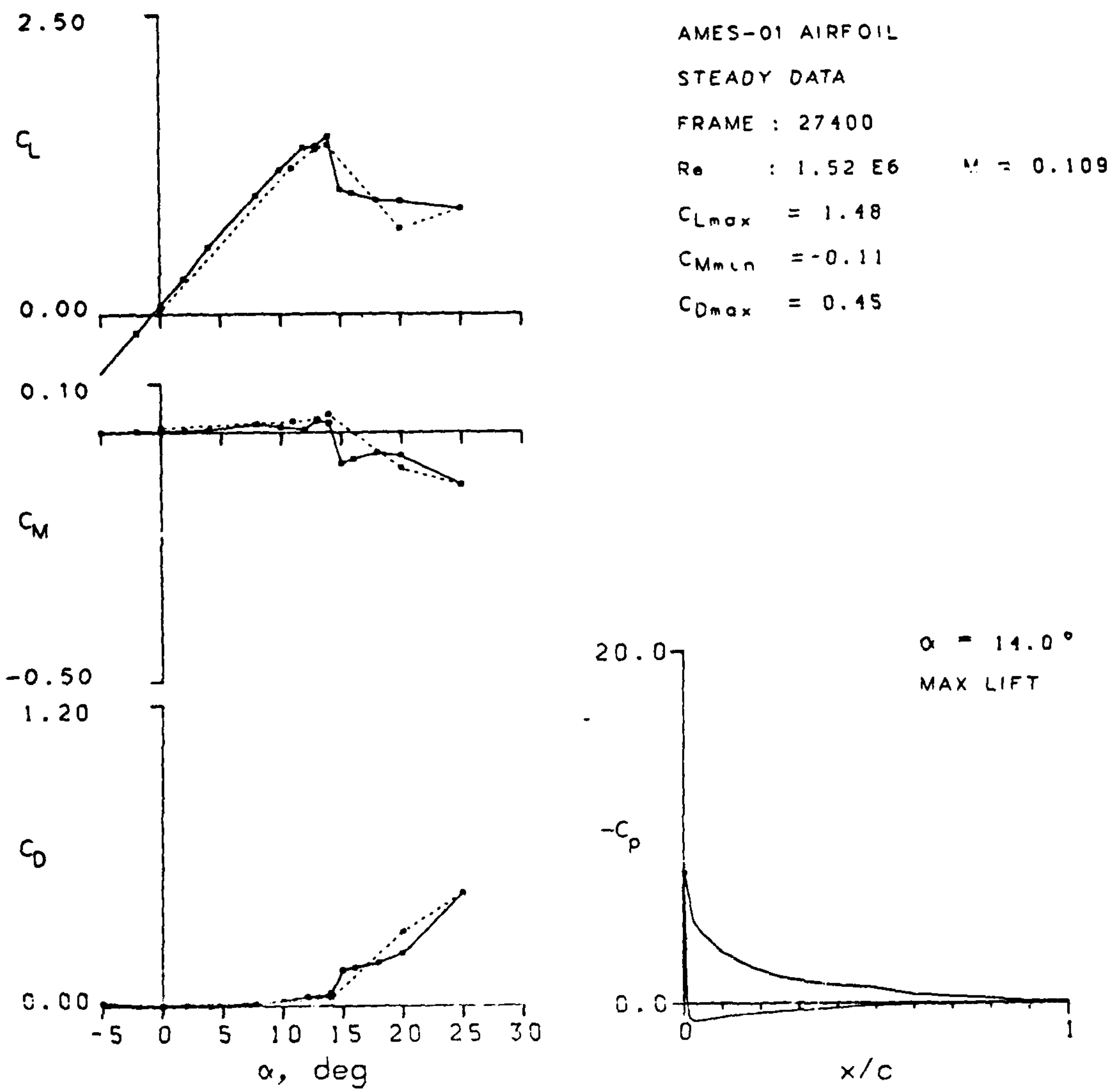


Figure 5.- Continued.

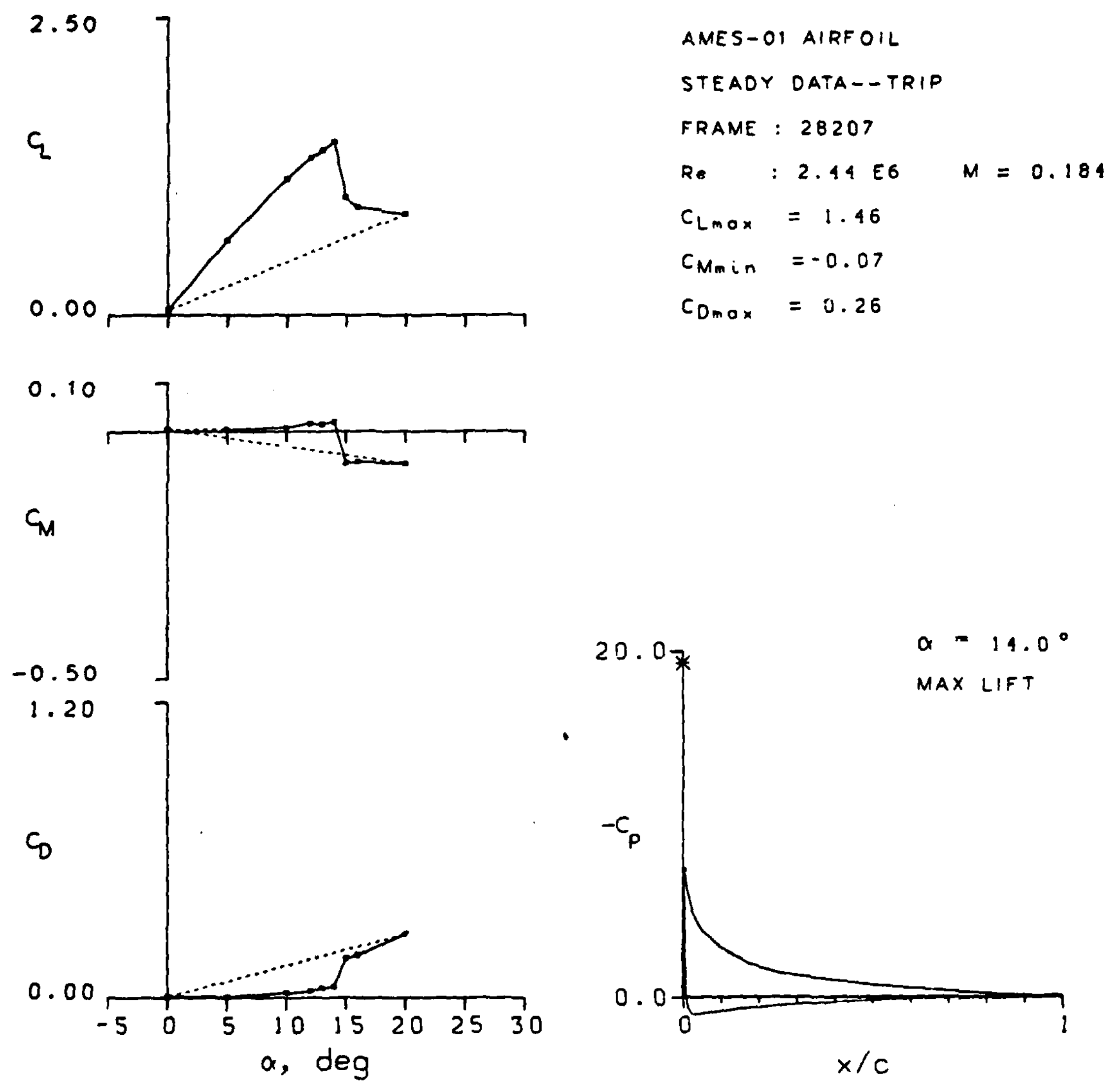


Figure 5.- Continued.

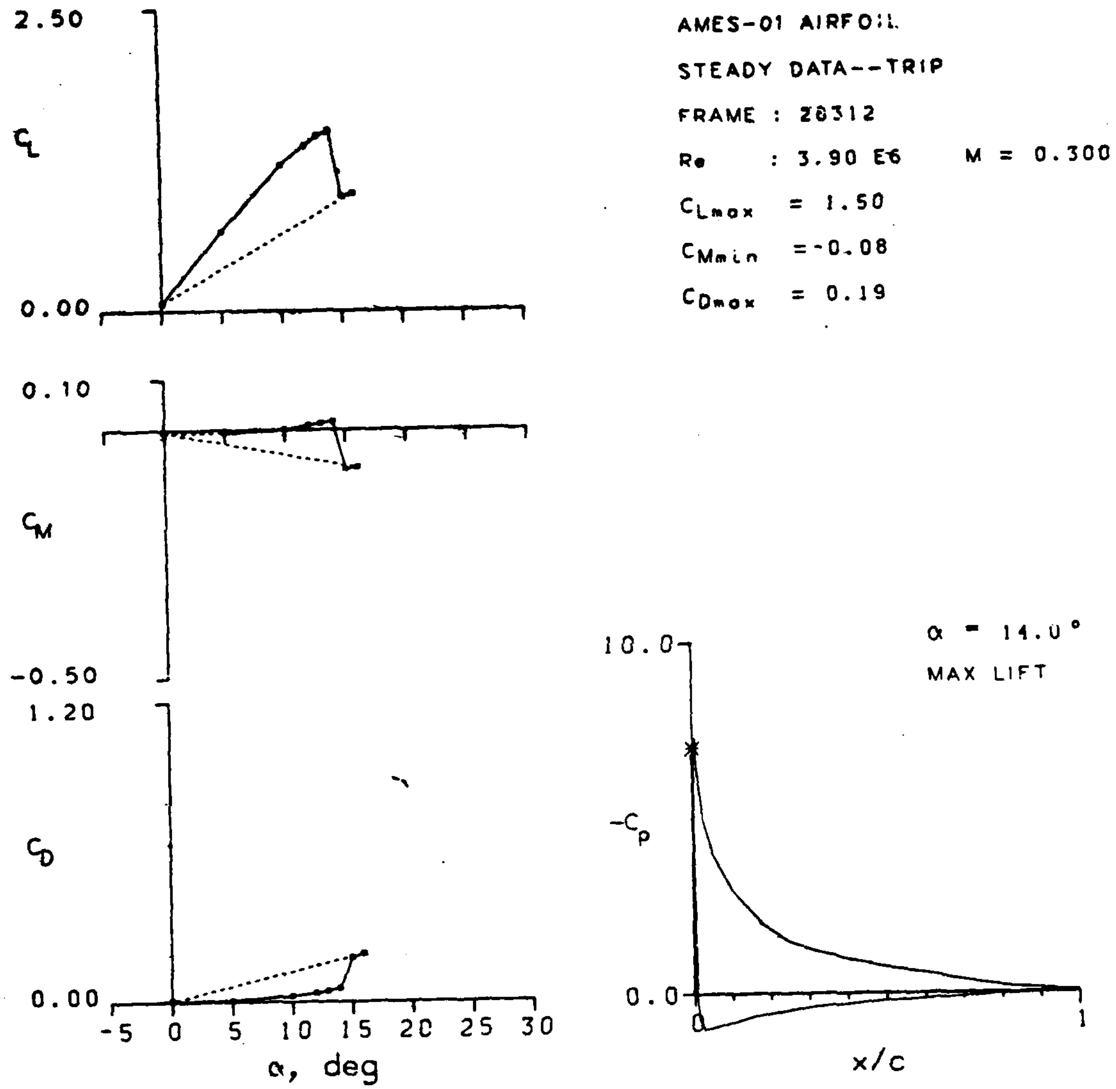


Figure 5.- Concluded.

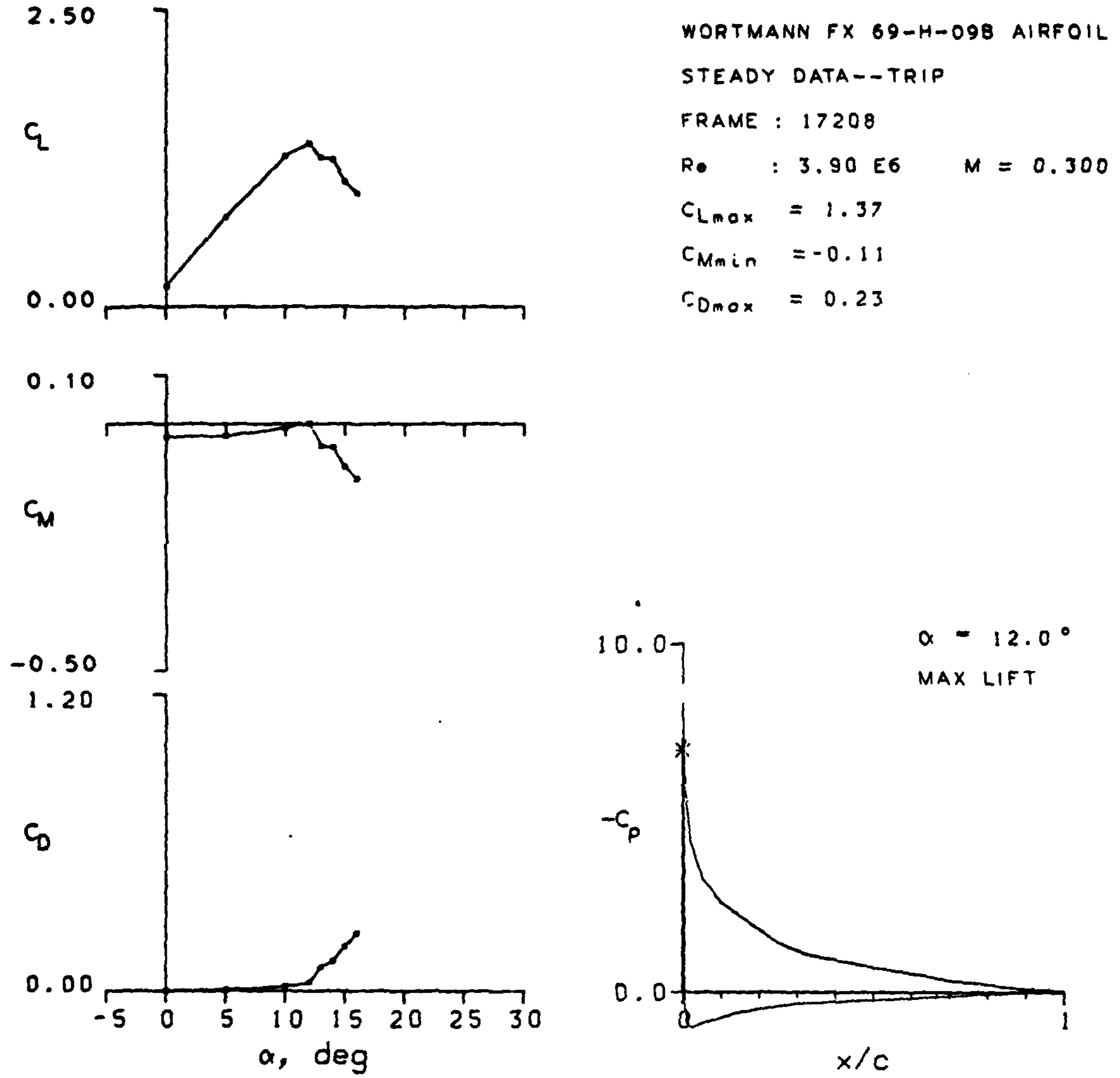


Figure 6.- Static data for Wortmann FX-098 airfoil.

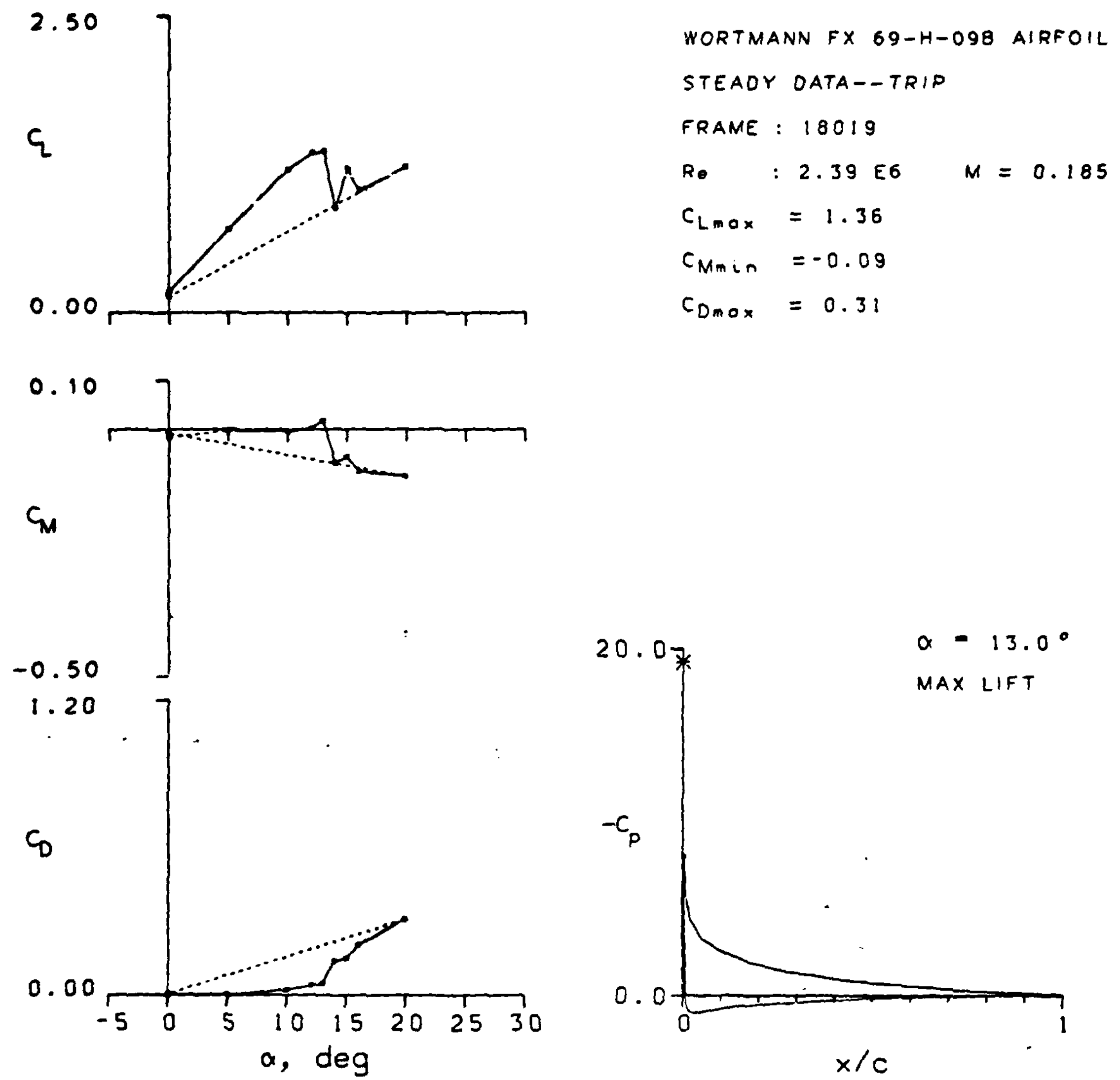


Figure 6.- Continued.

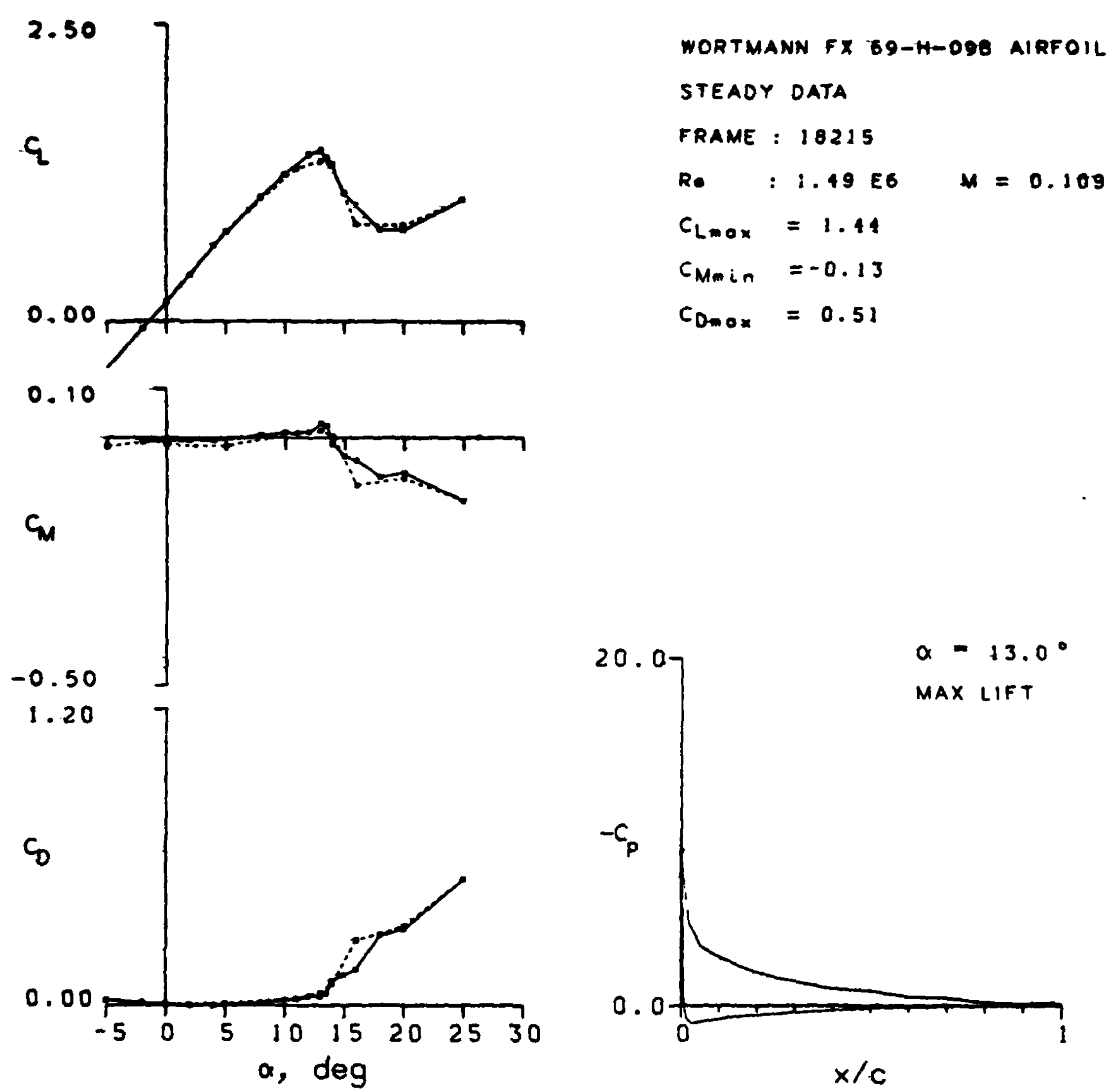


Figure 6.- Continued.

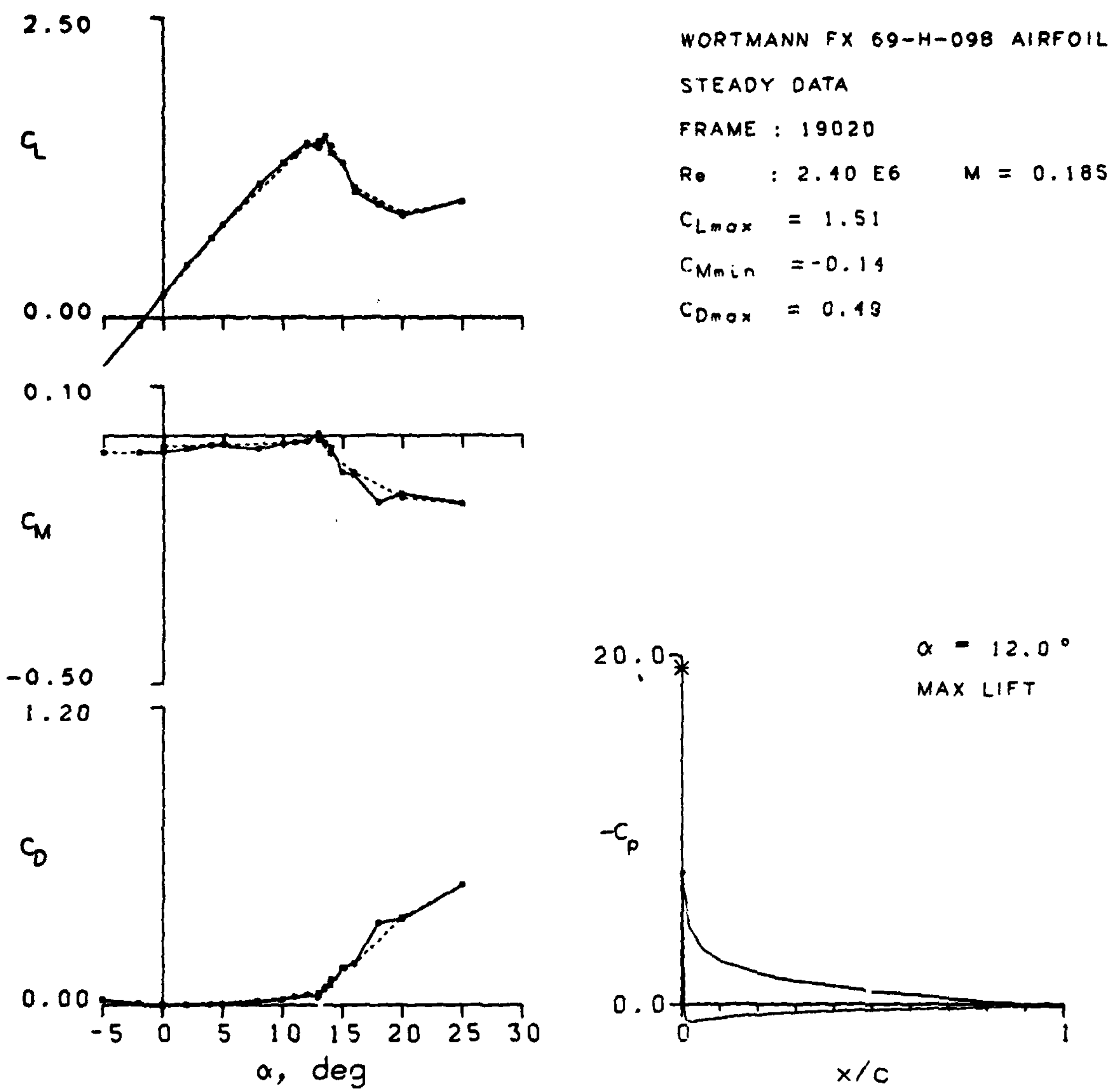


Figure 6.- Continued.

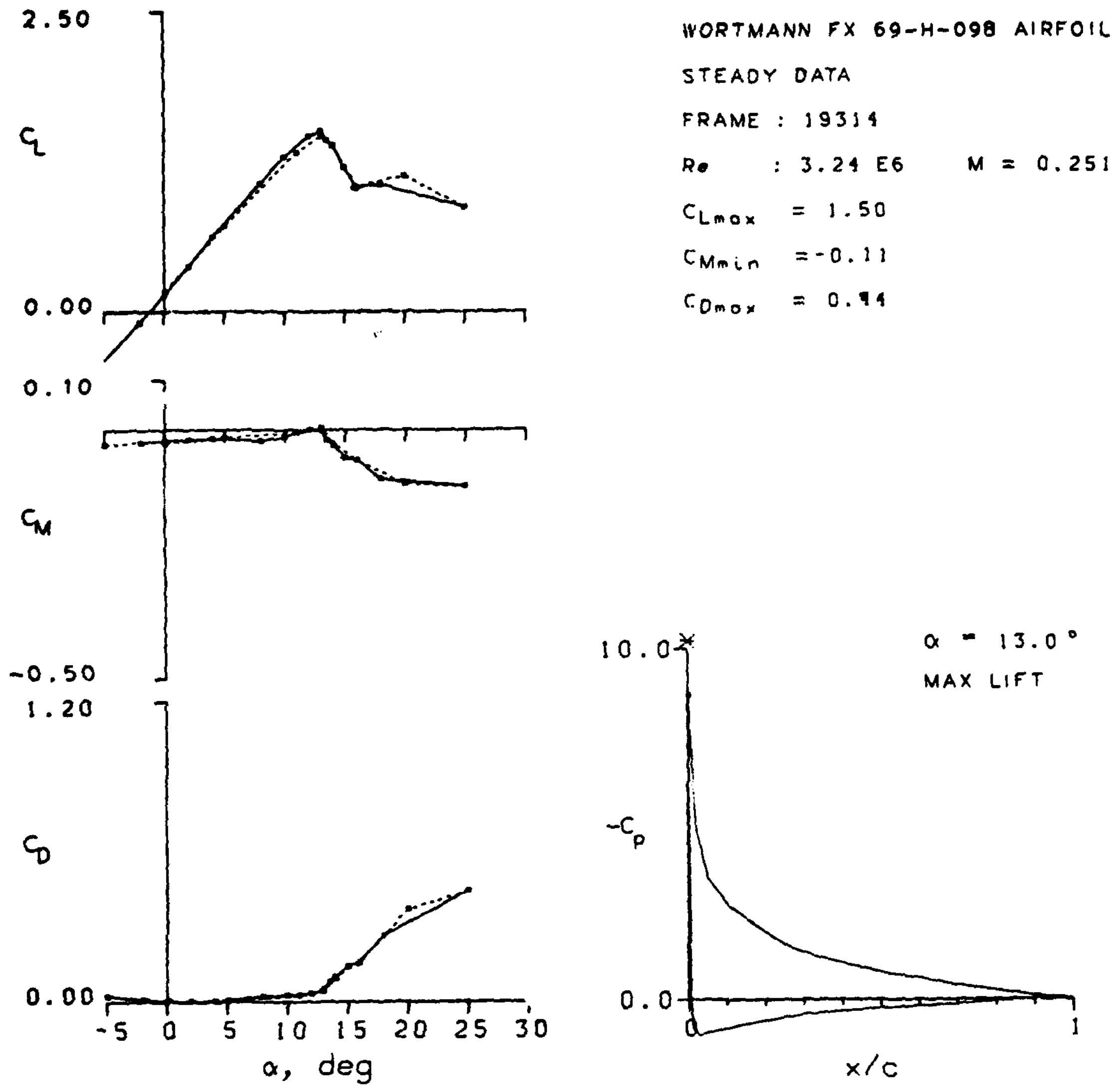


Figure 6.- Continued.

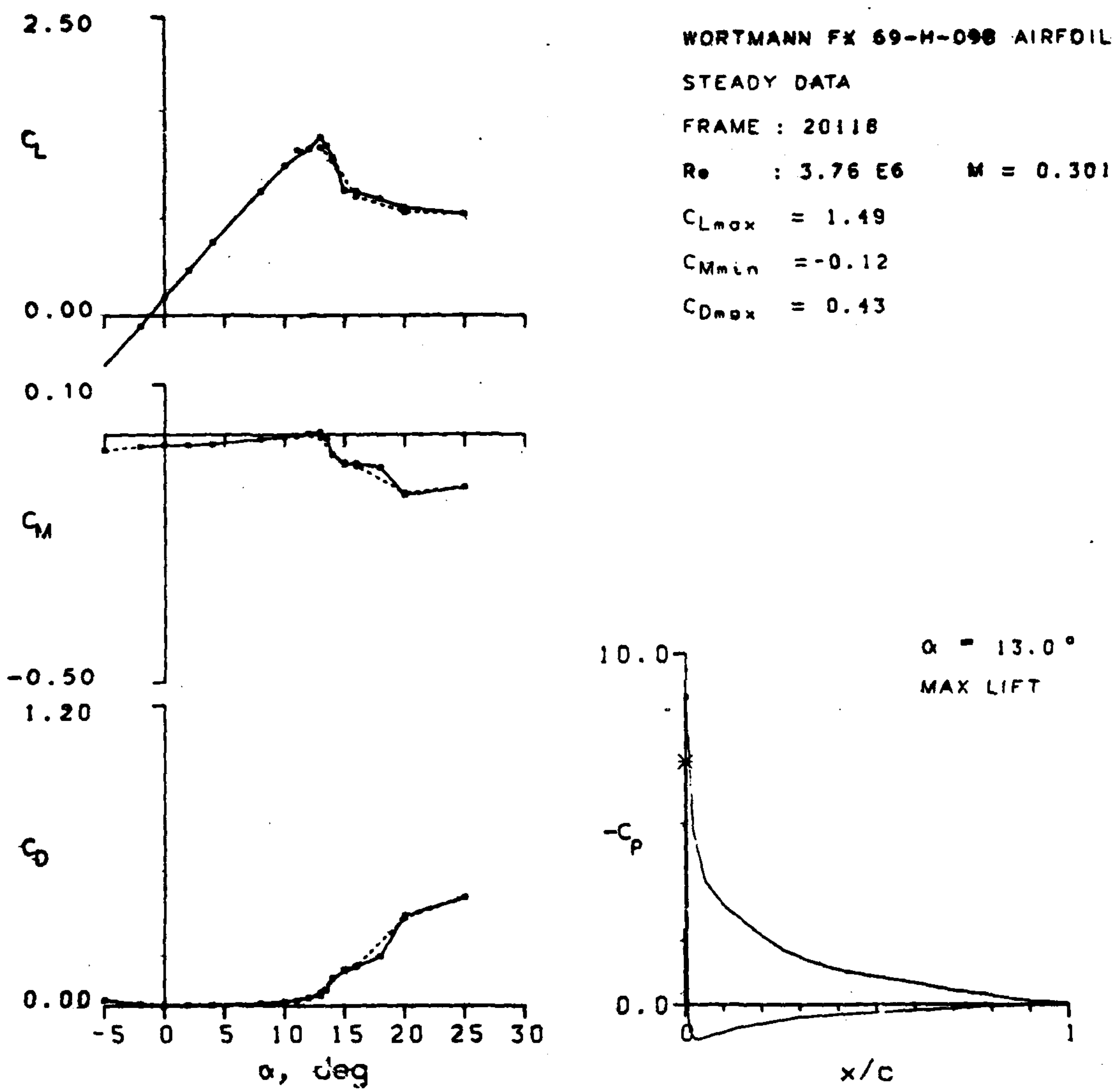


Figure 6.- Concluded.

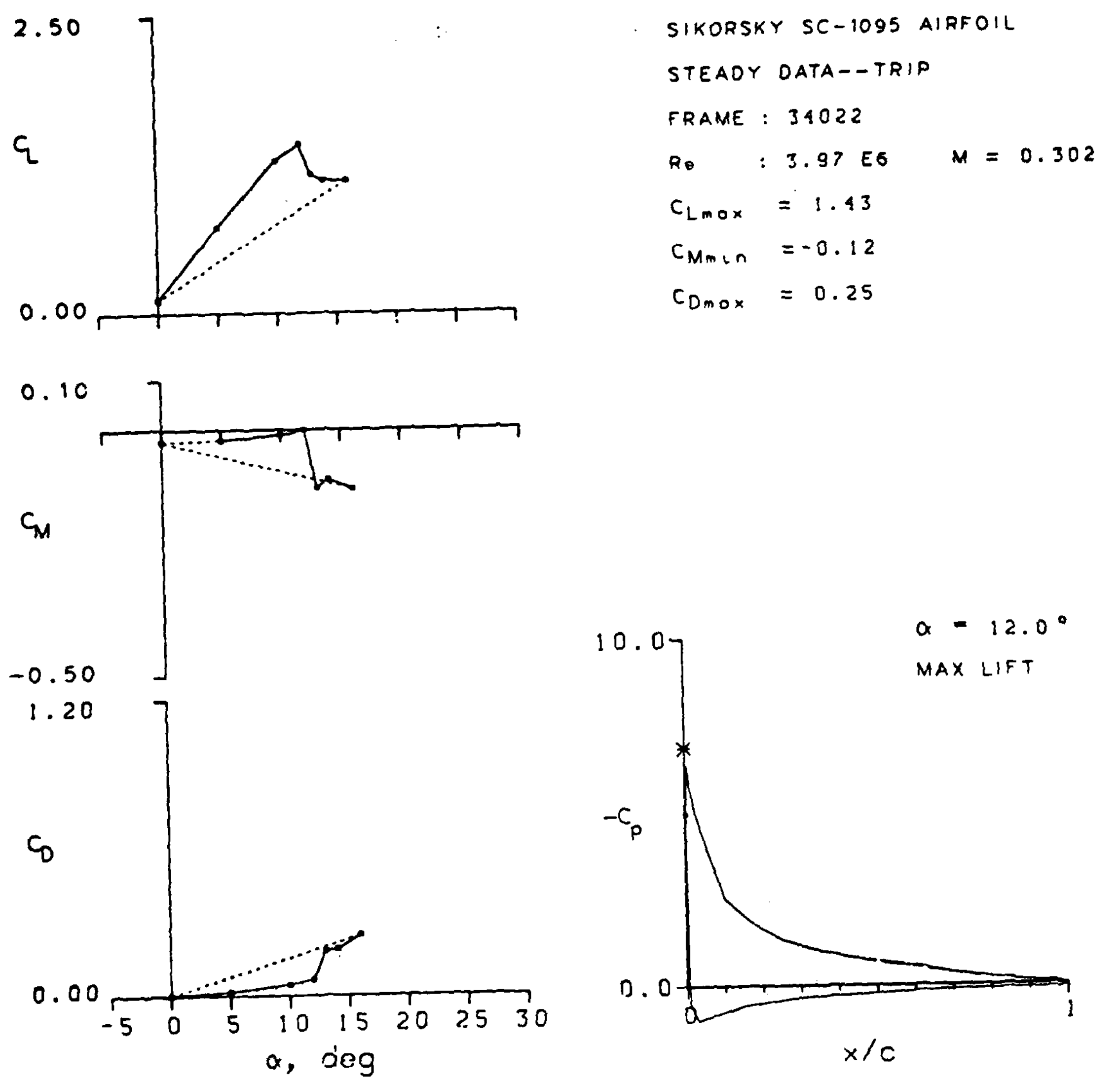


Figure 7.- Static data for Sikorsky SC-1095 airfoil.

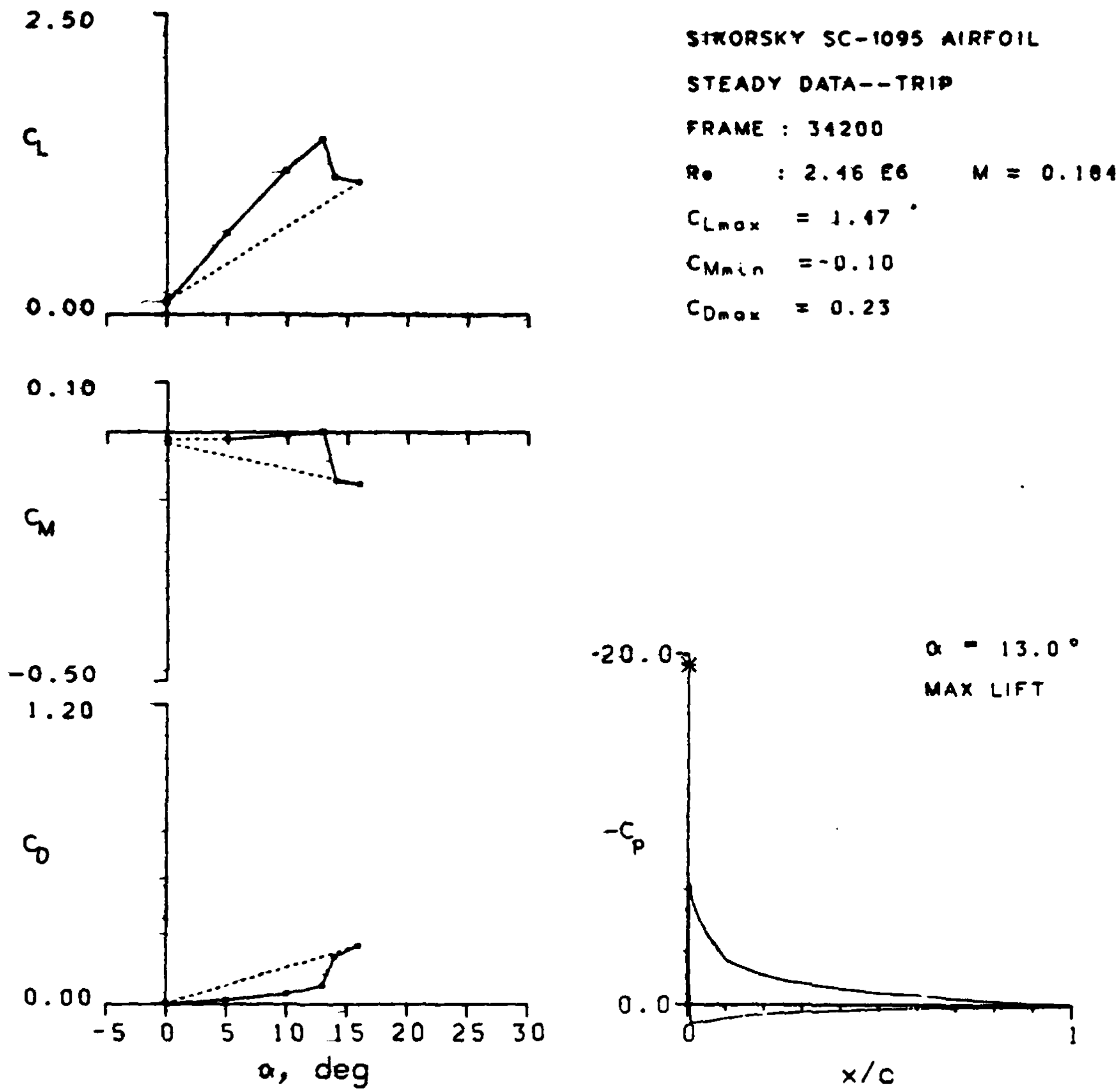


Figure 7.- Continued.

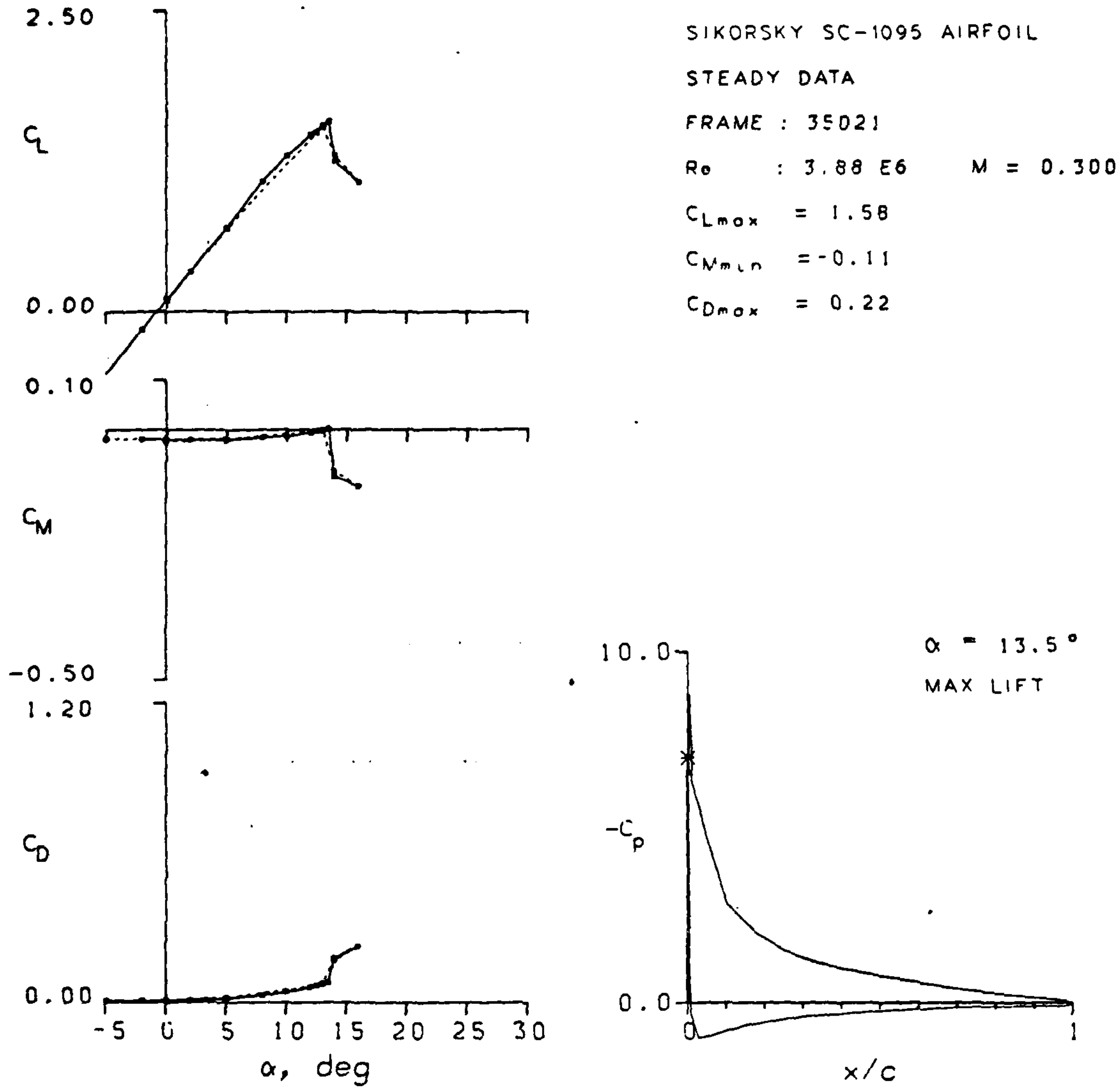


Figure 7.- Continued.

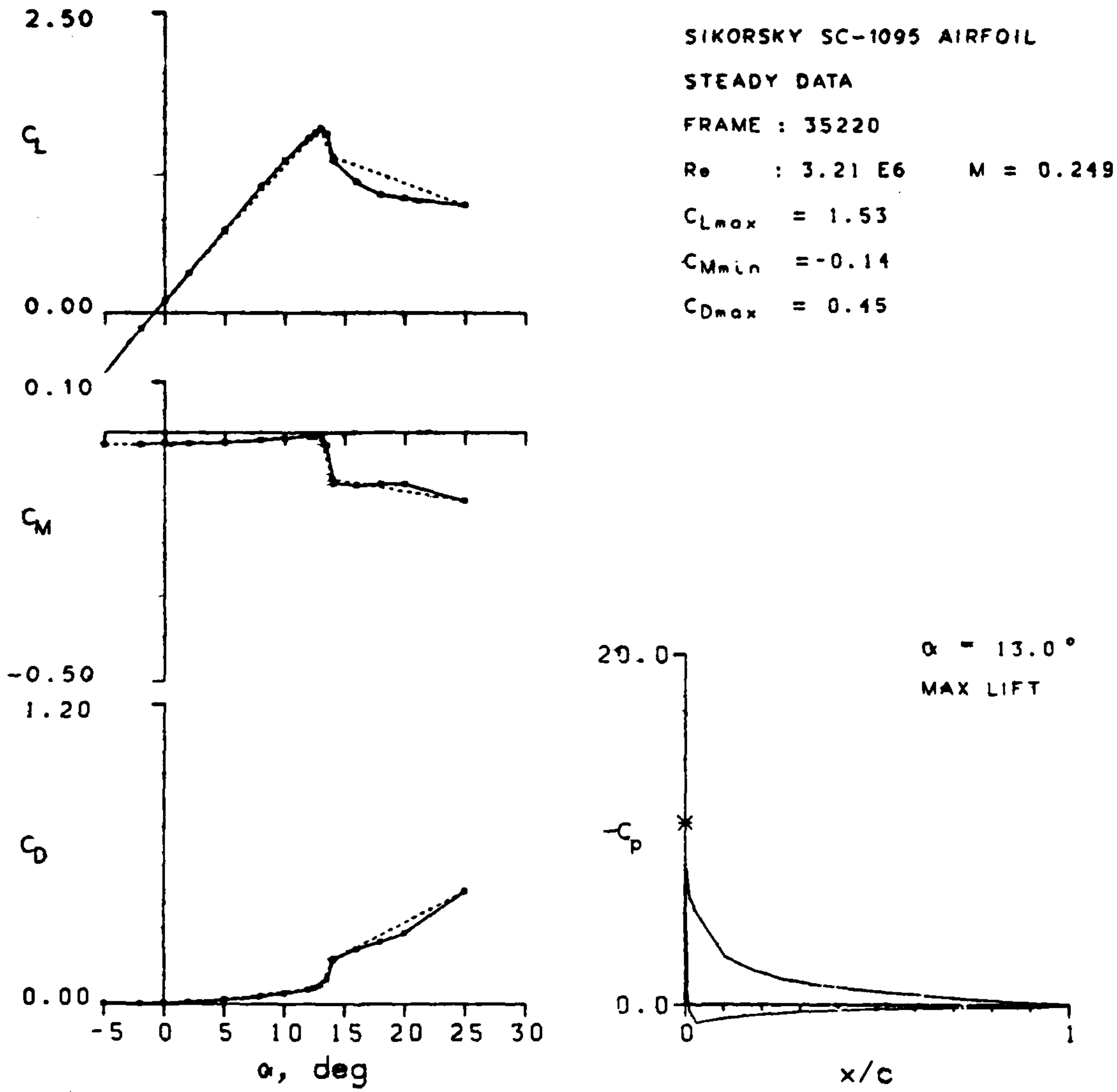


Figure 7.- Continued.

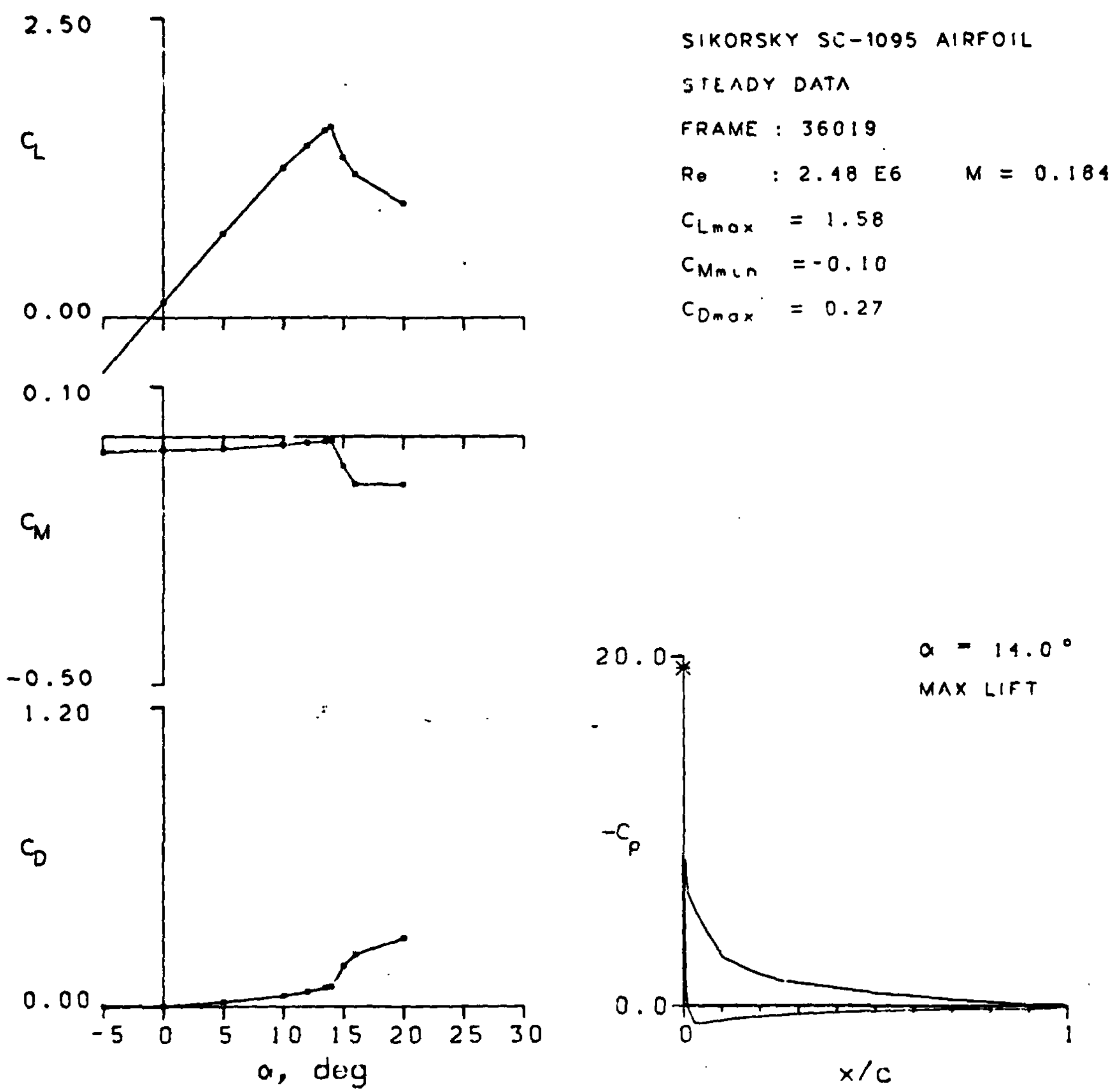


Figure 7.- Continued.

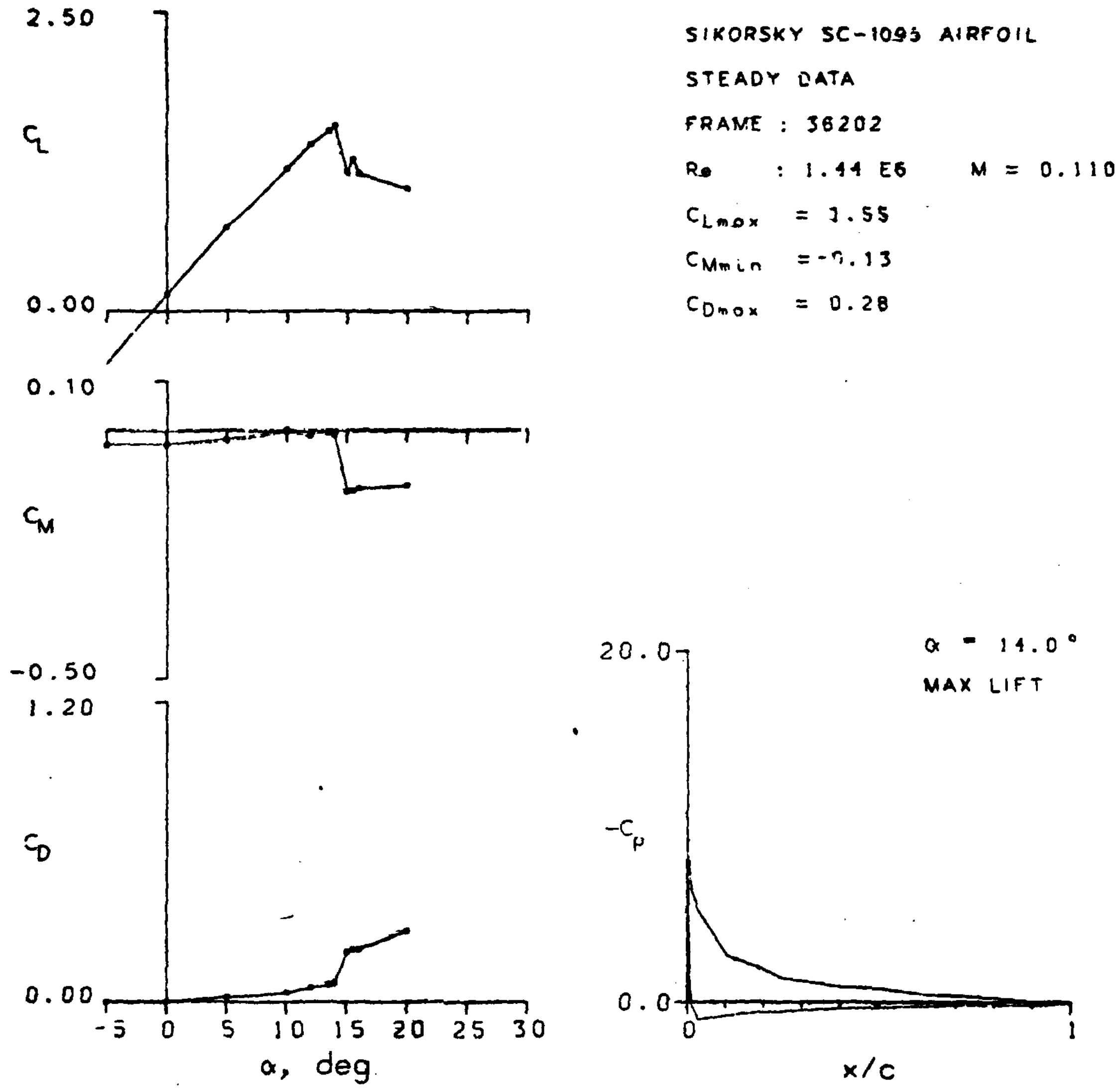


Figure 7.- Concluded.

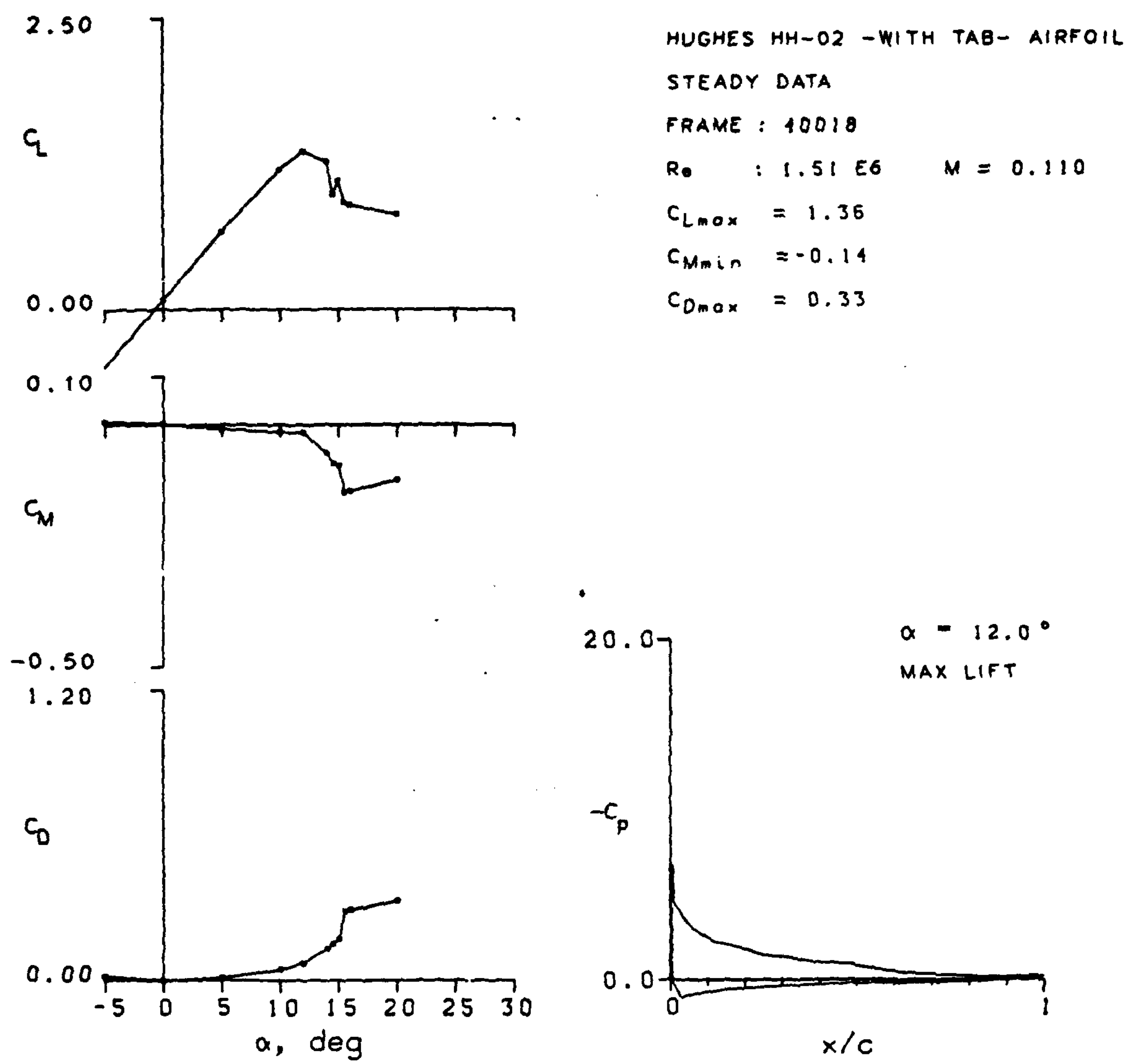


Figure 8.- Static data for Hughes HH-02 airfoil.

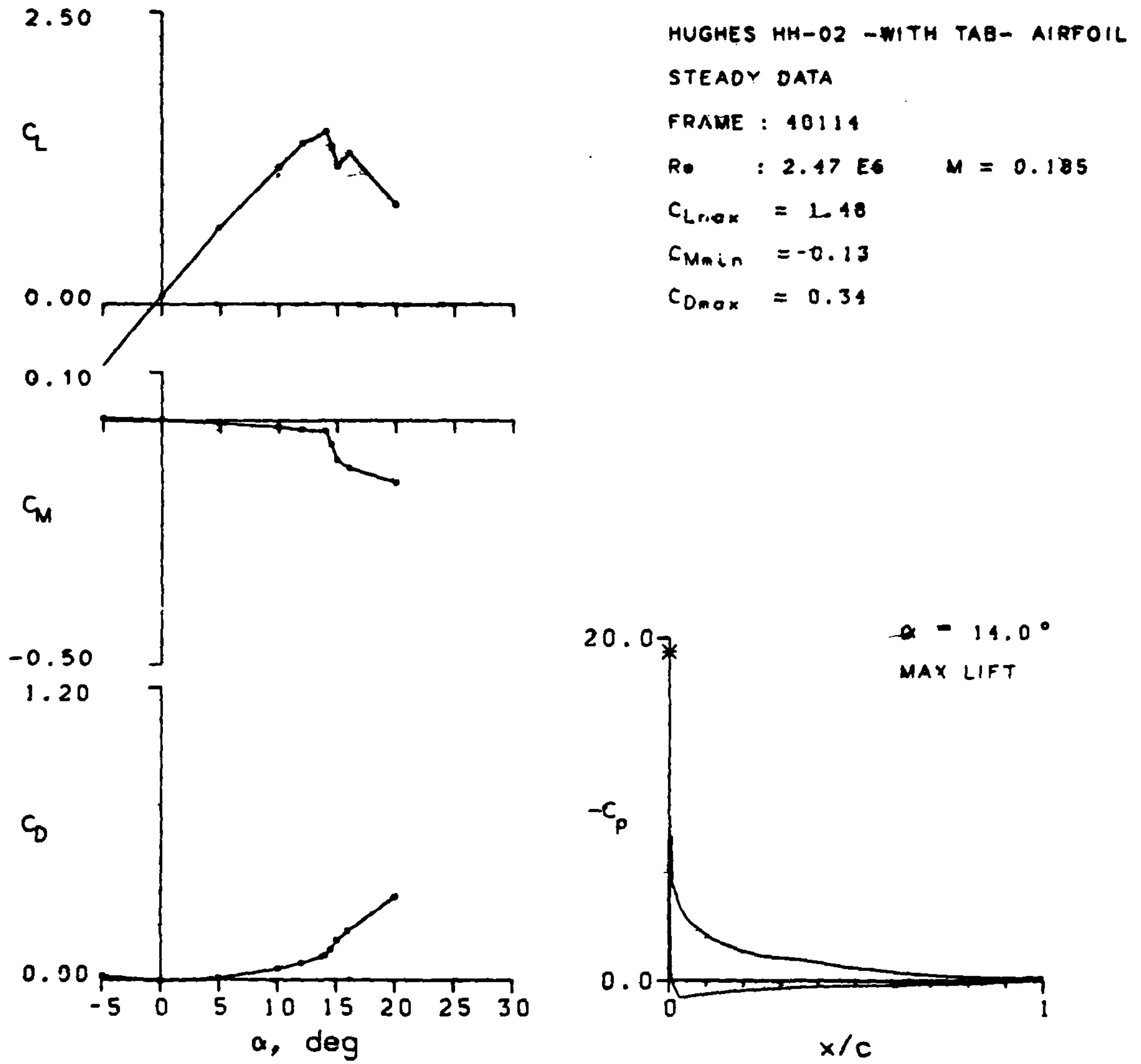


Figure 8.- Continued.

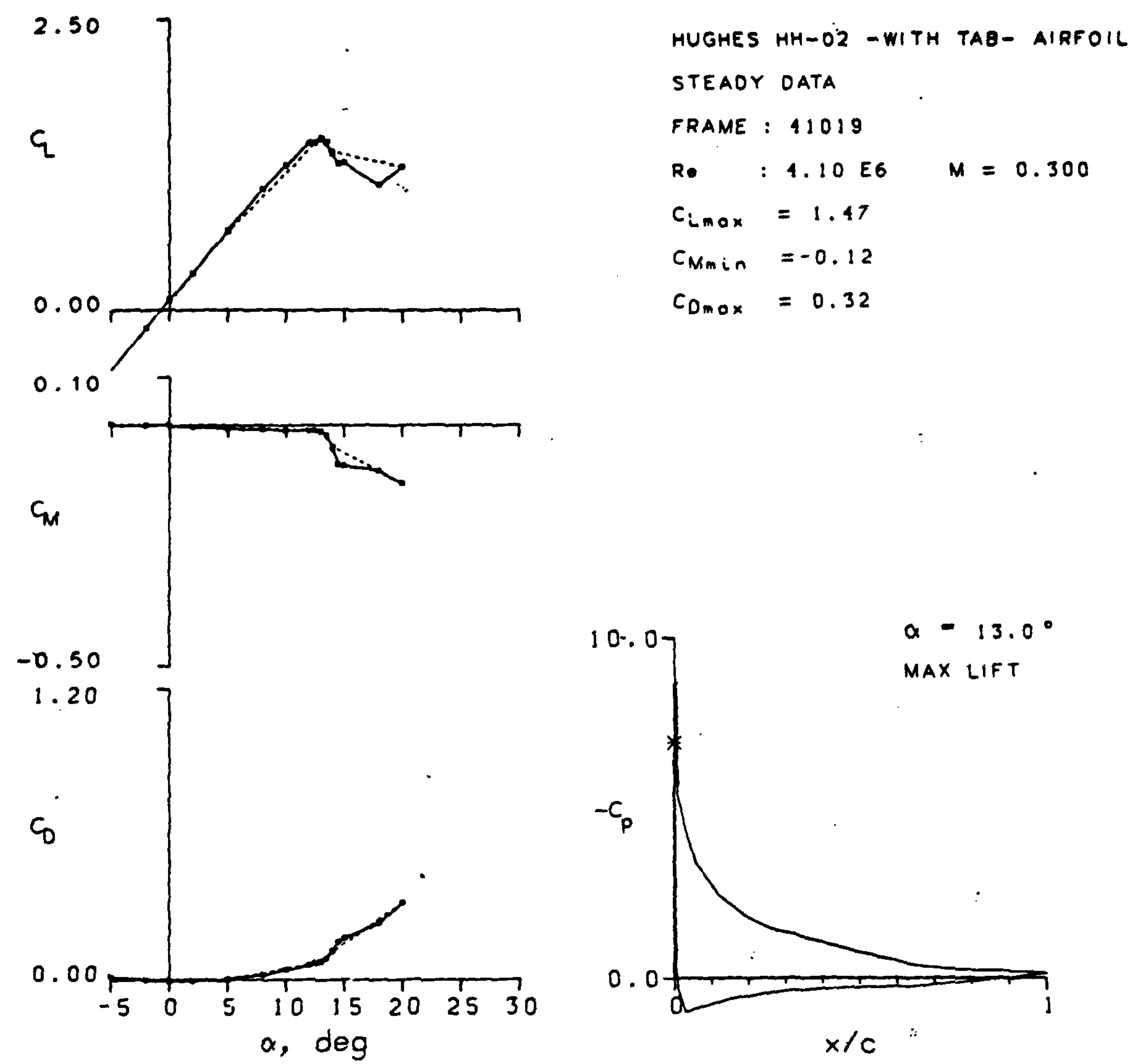


Figure 8.- Continued.

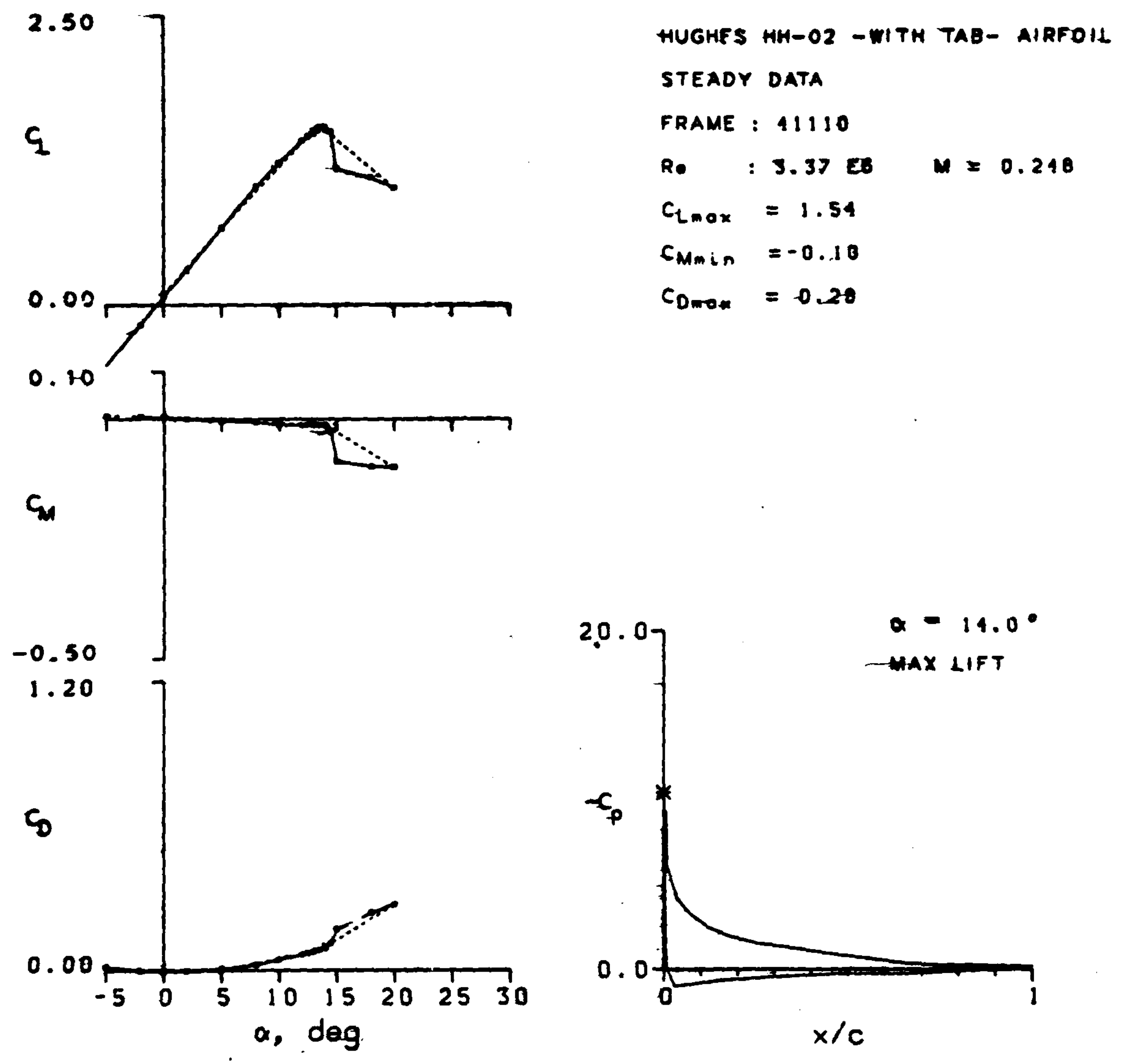


Figure 8.- Continued.

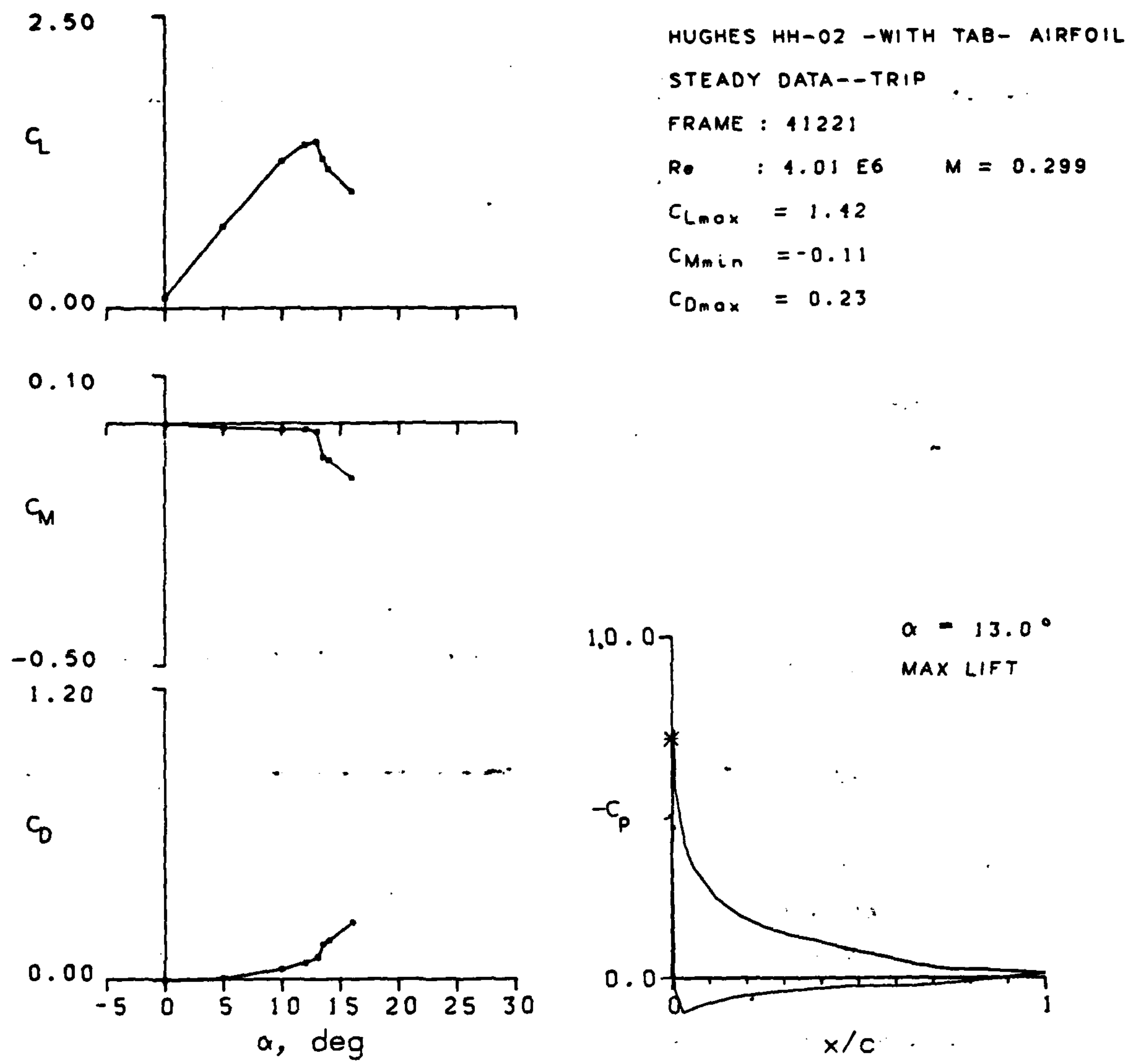


Figure 8.- Continued.

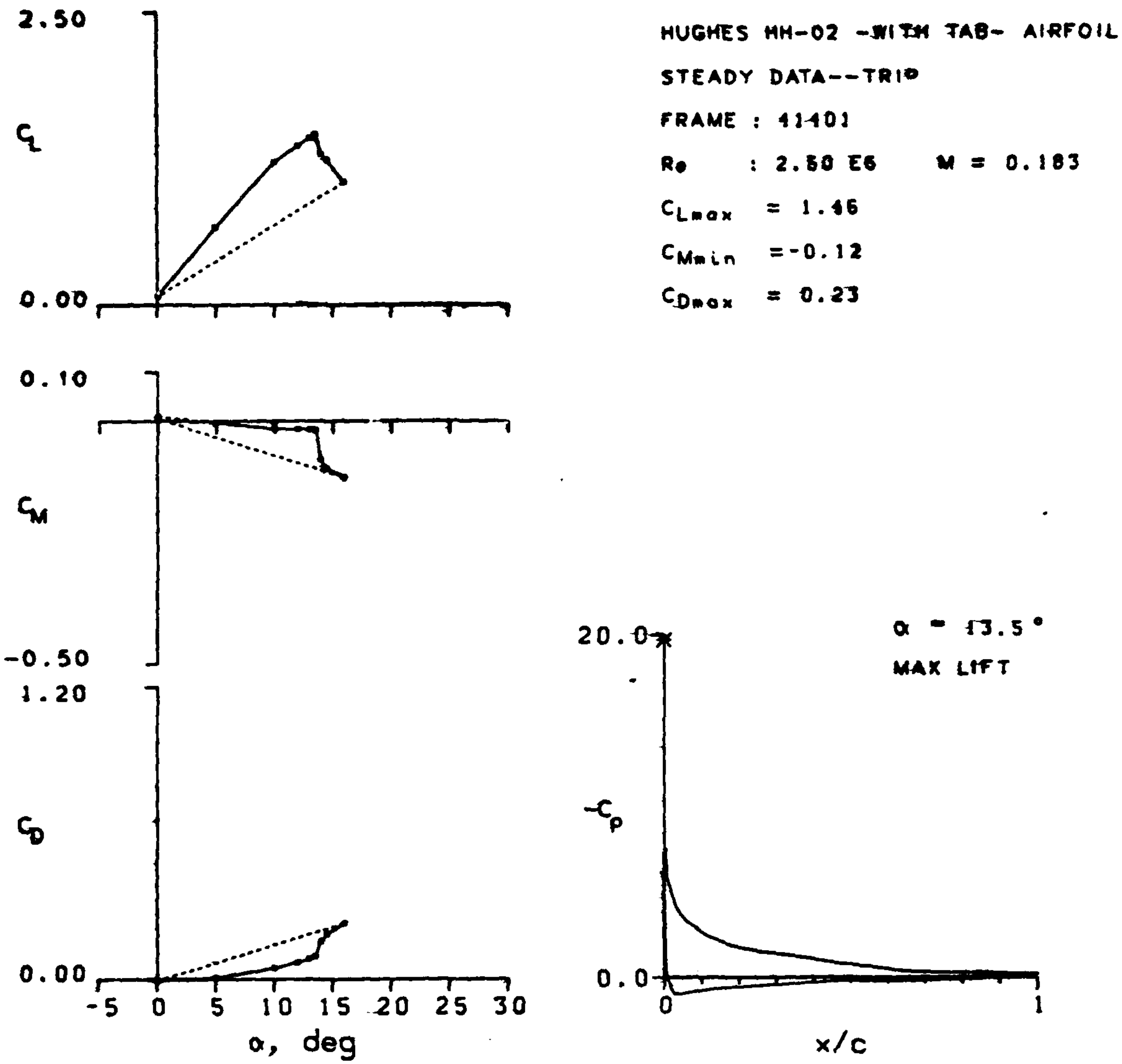


Figure 8.- Concluded.

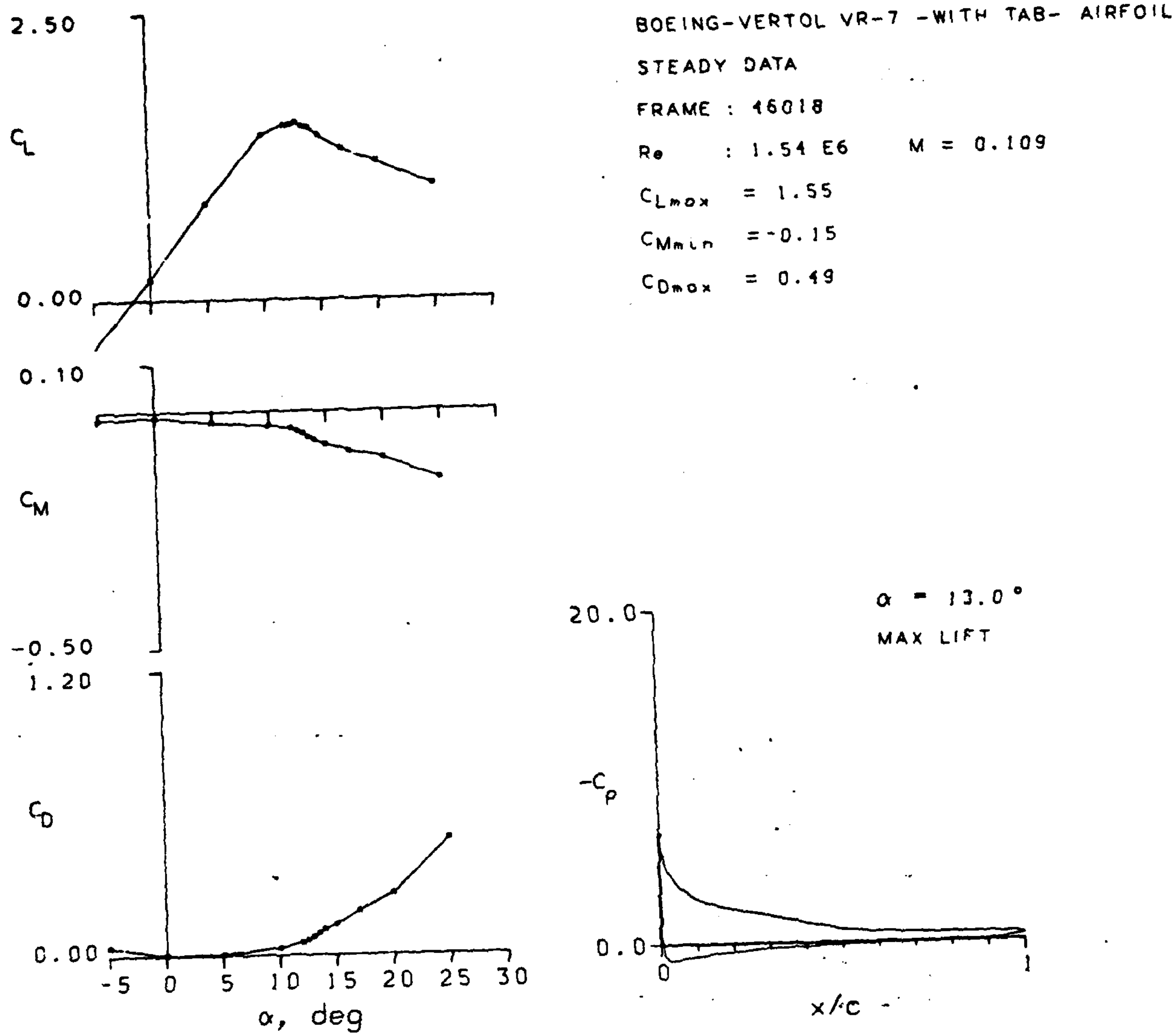


Figure 9.- Static data for Vertol VR-7 airfoil.

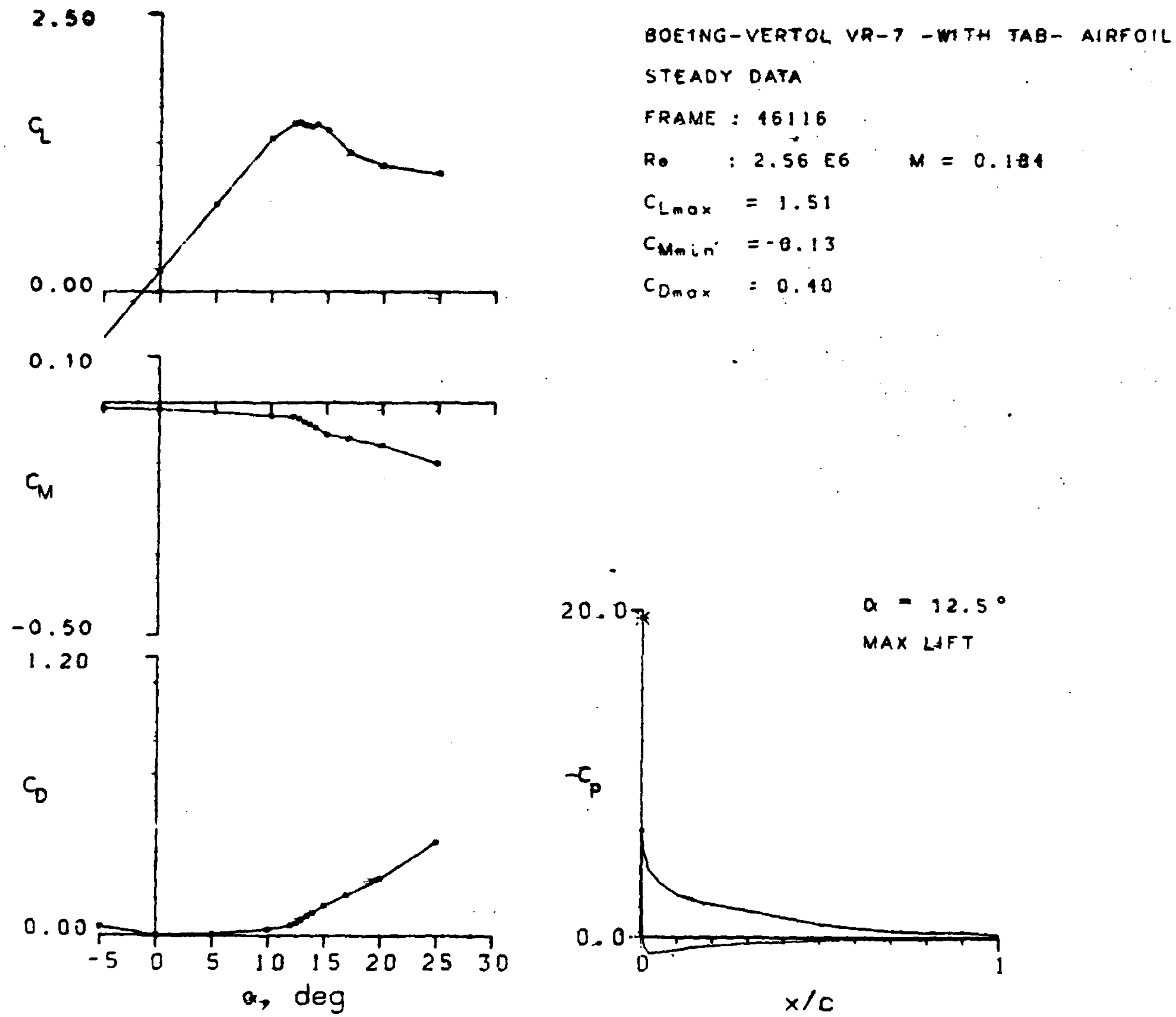


Figure 9.- Continued.

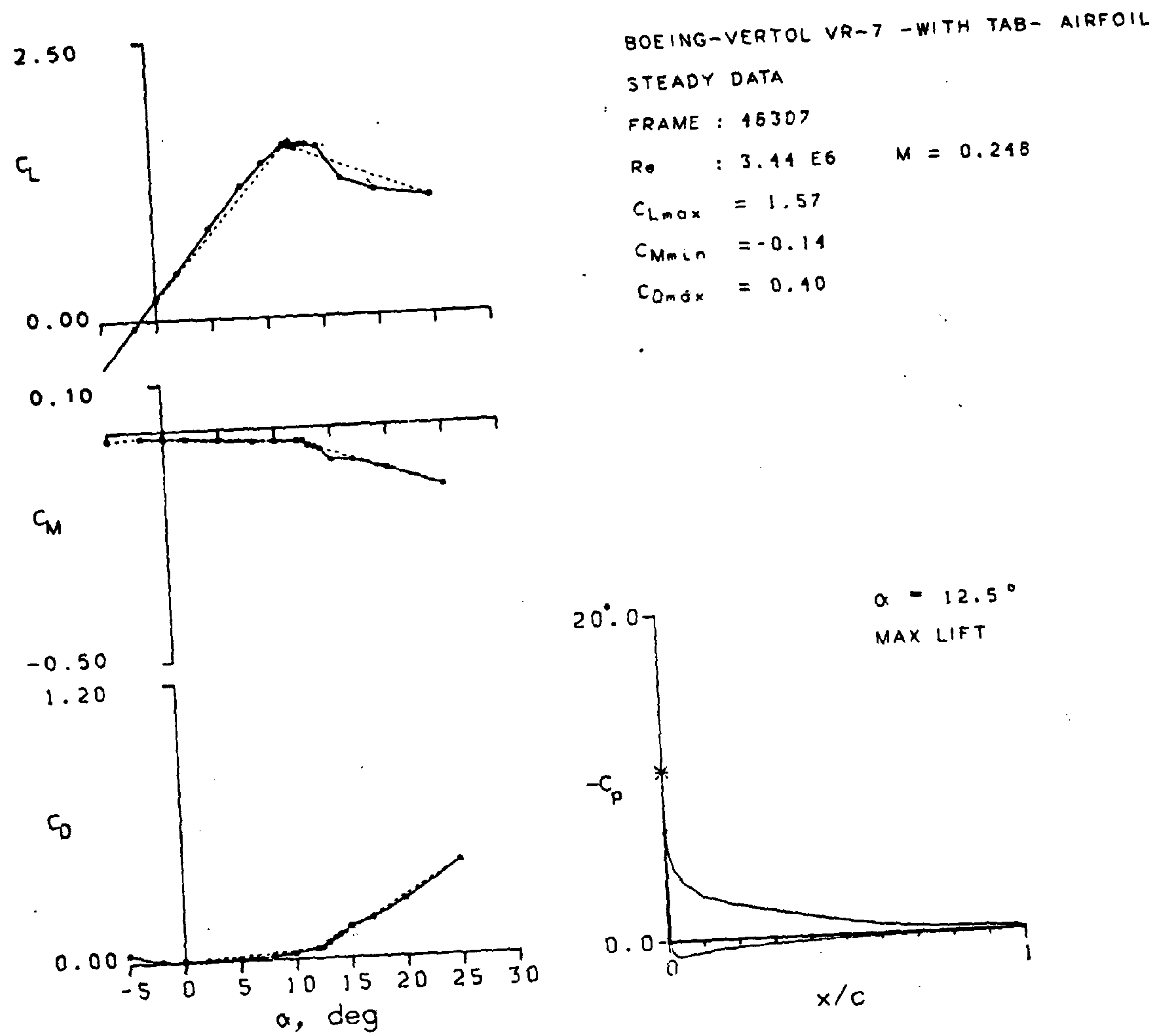


Figure 9.- Continued.

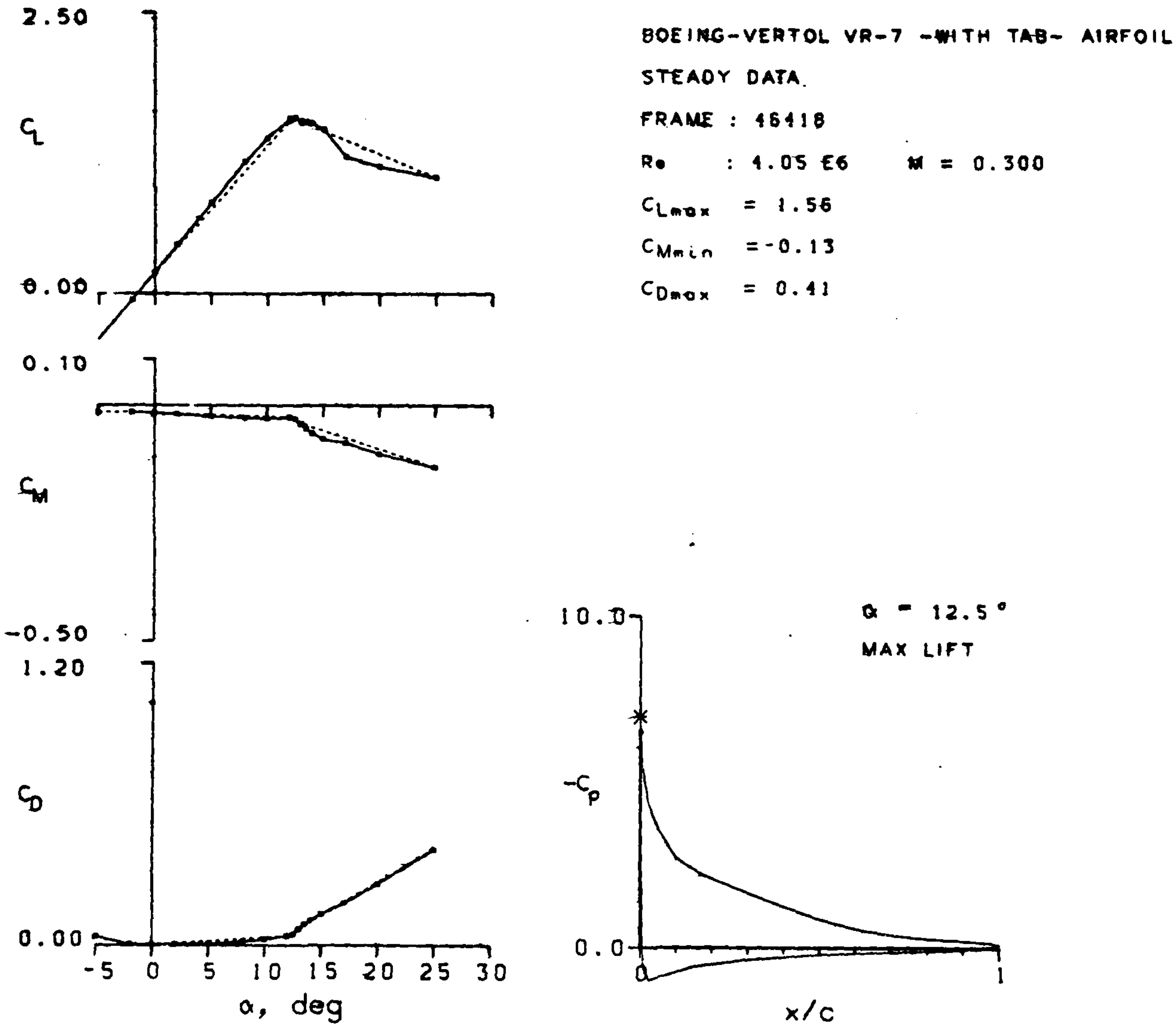


Figure 9.- Continued.

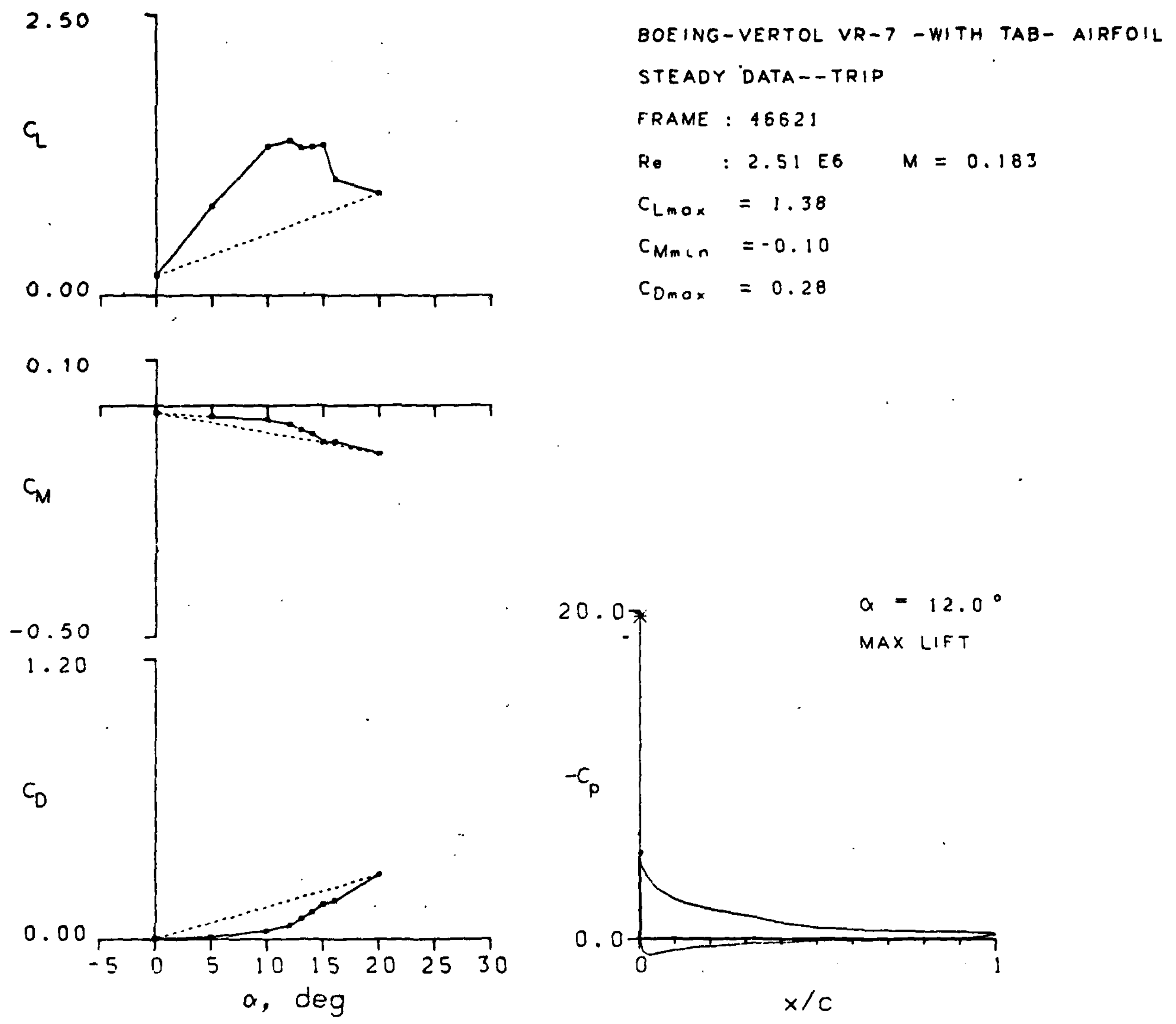


Figure 9.- Continued.

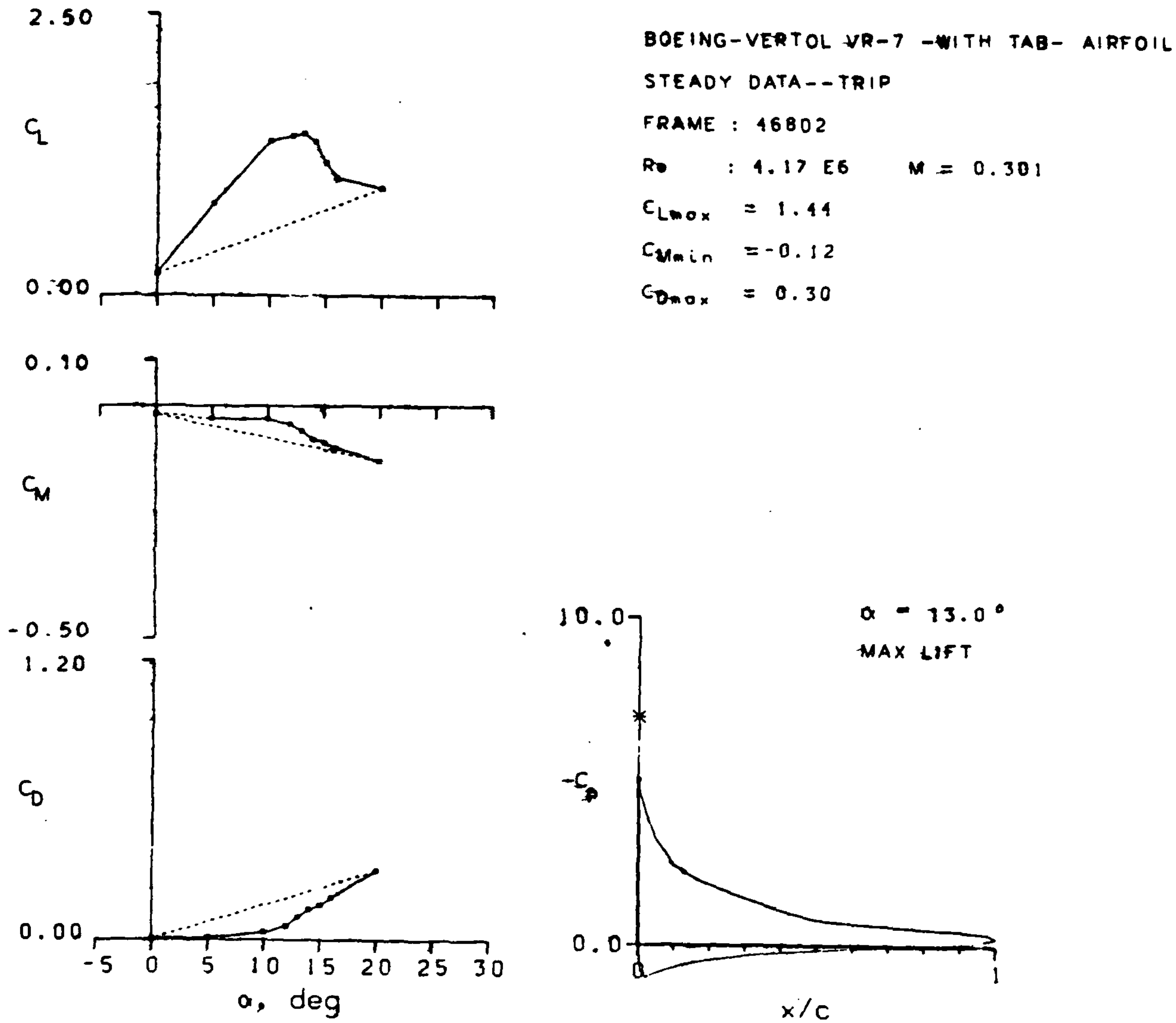


Figure 9.- Concluded.

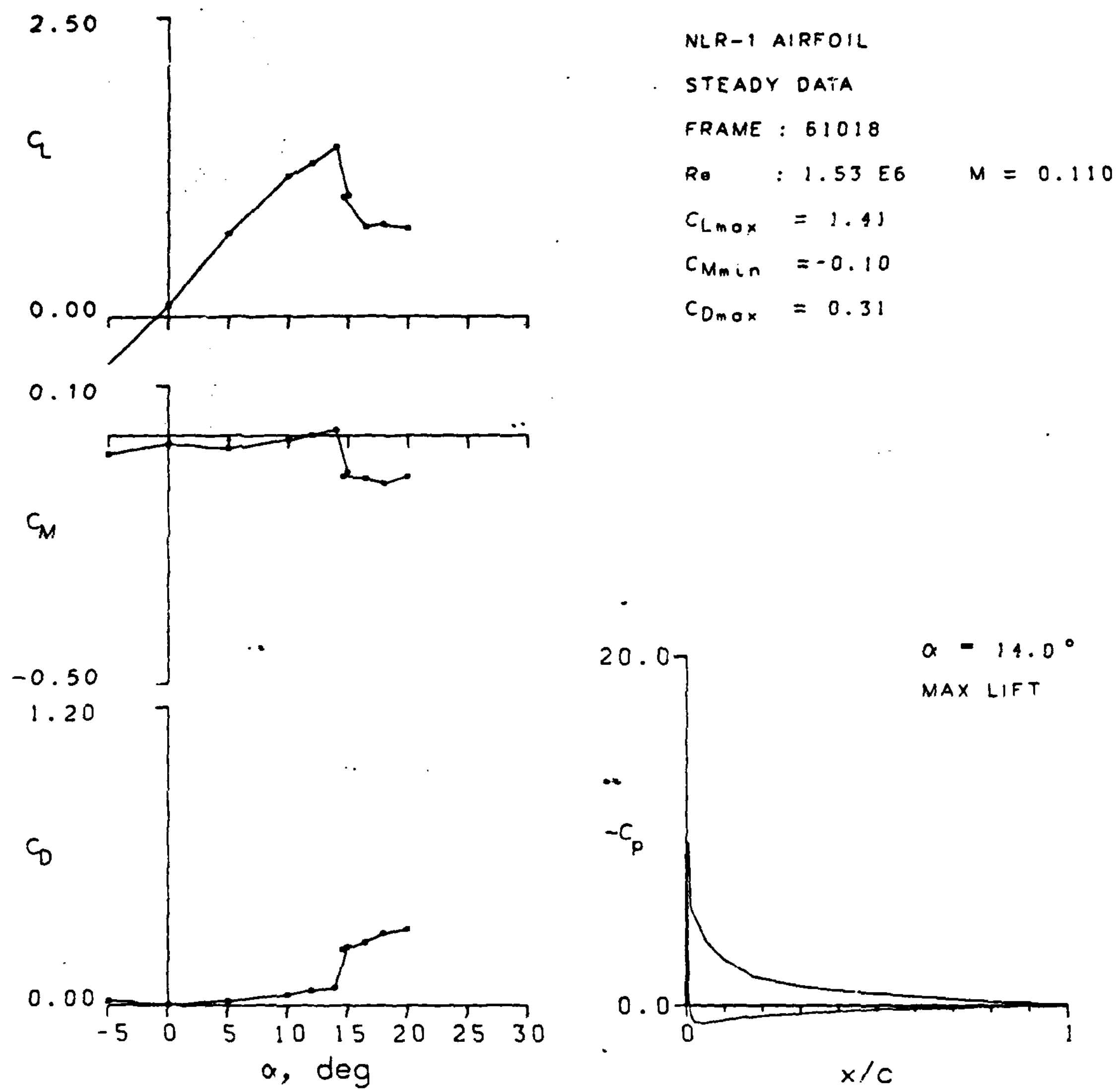


Figure 10.- Static data for NLR-1 airfoil.

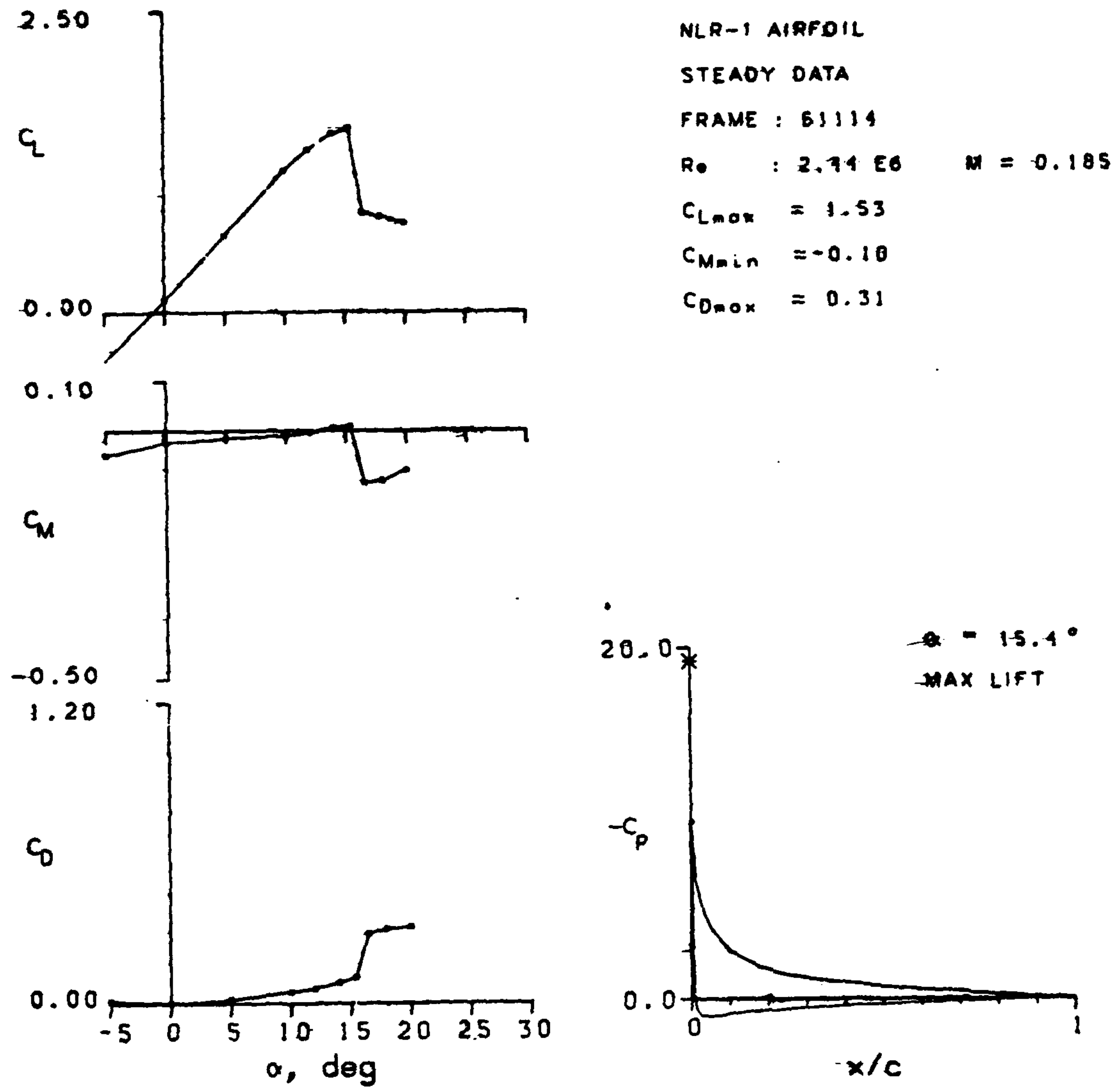


Figure 10.- Continued.

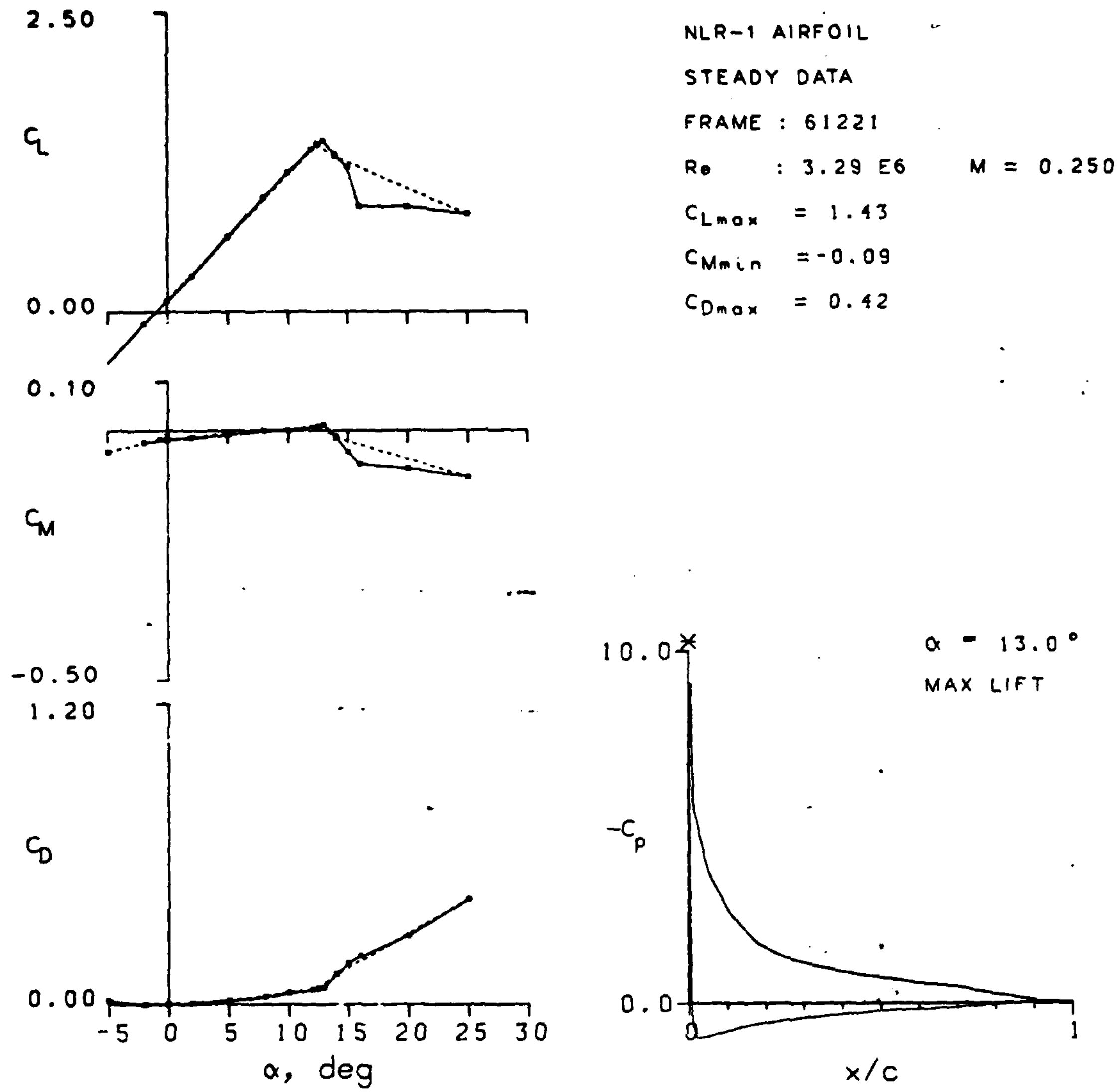


Figure 10.- Continued.

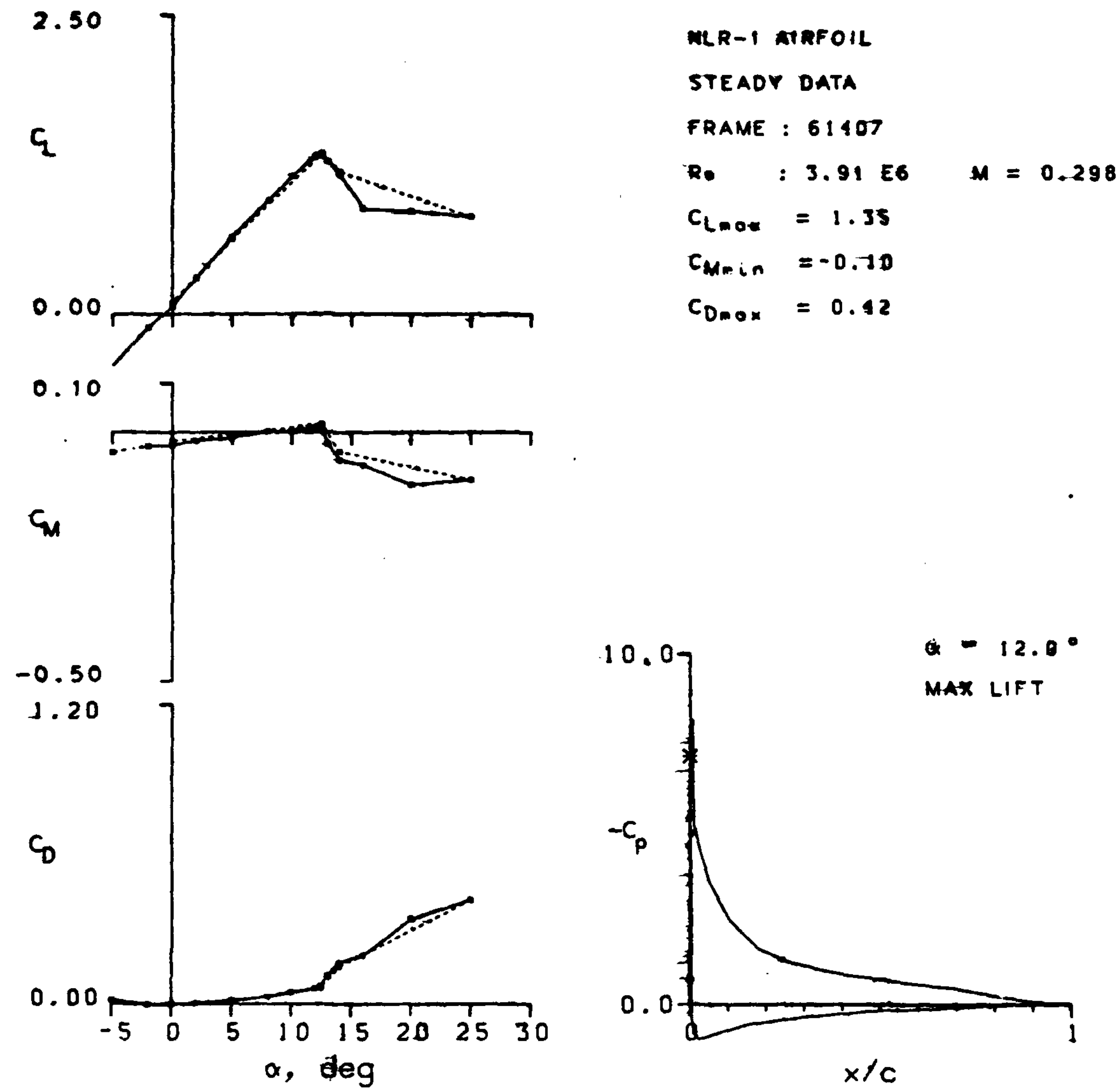


Figure 10.- Continued.

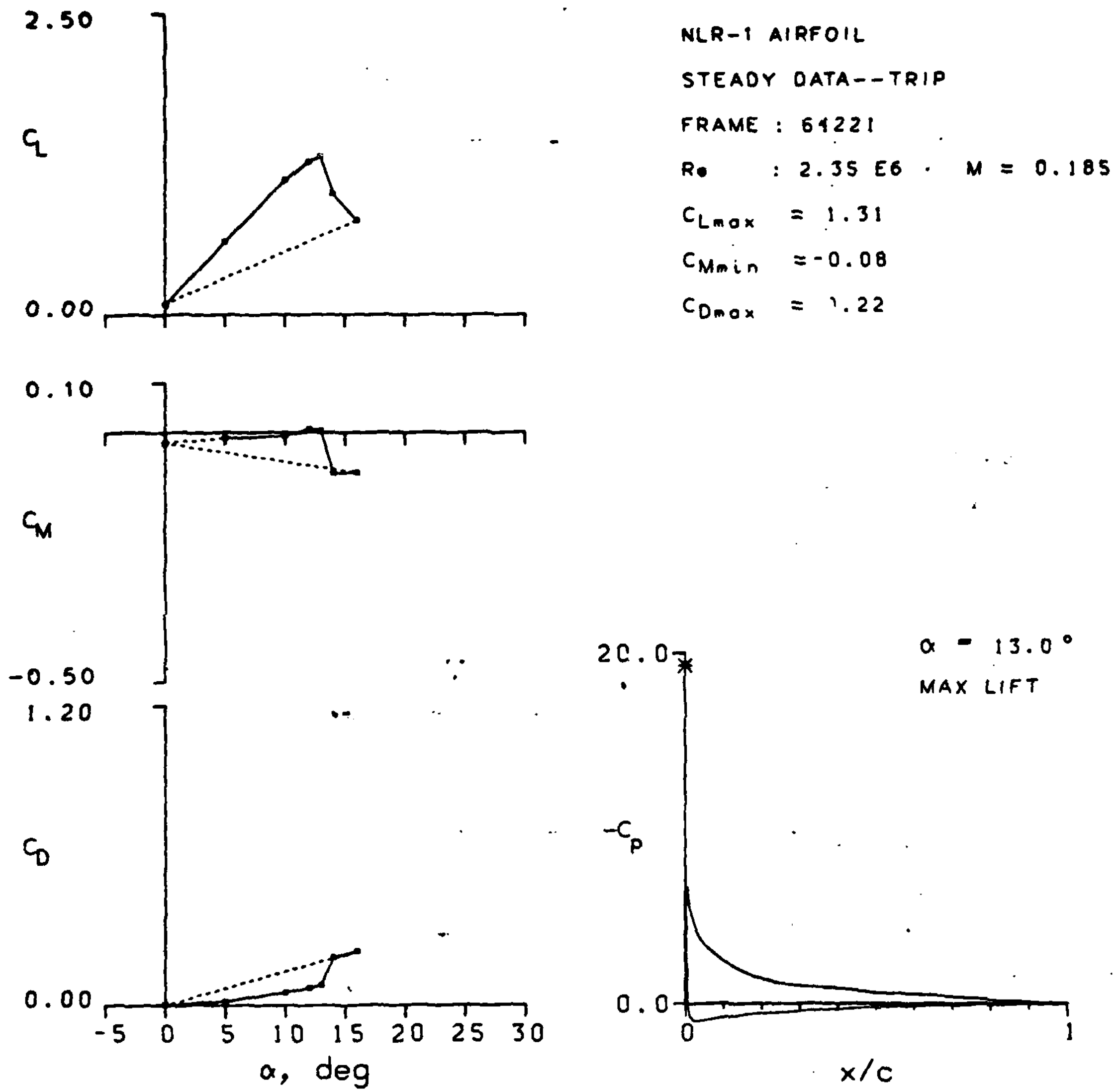


Figure 10.- Continued.

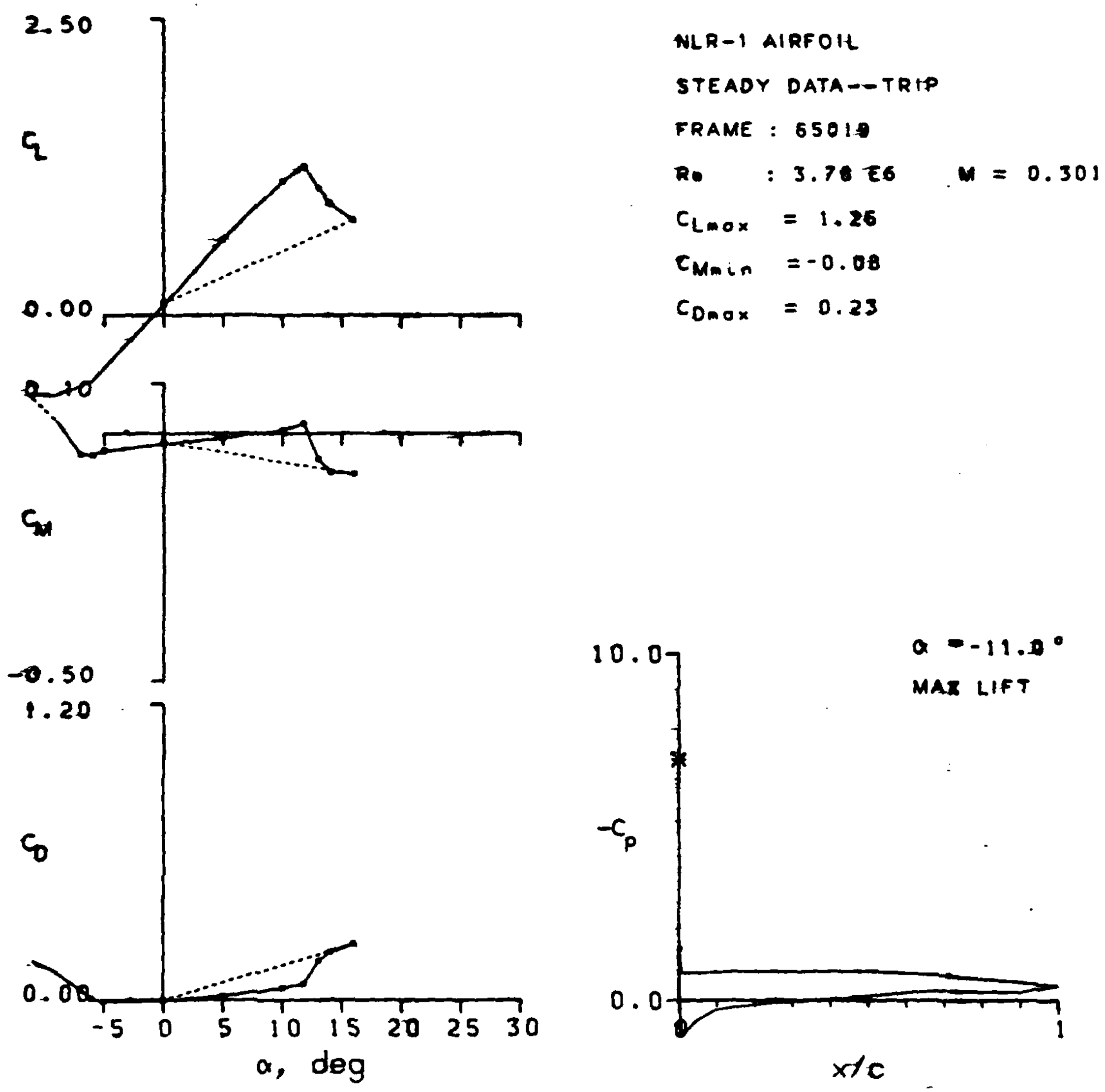


Figure 10.- Concluded.

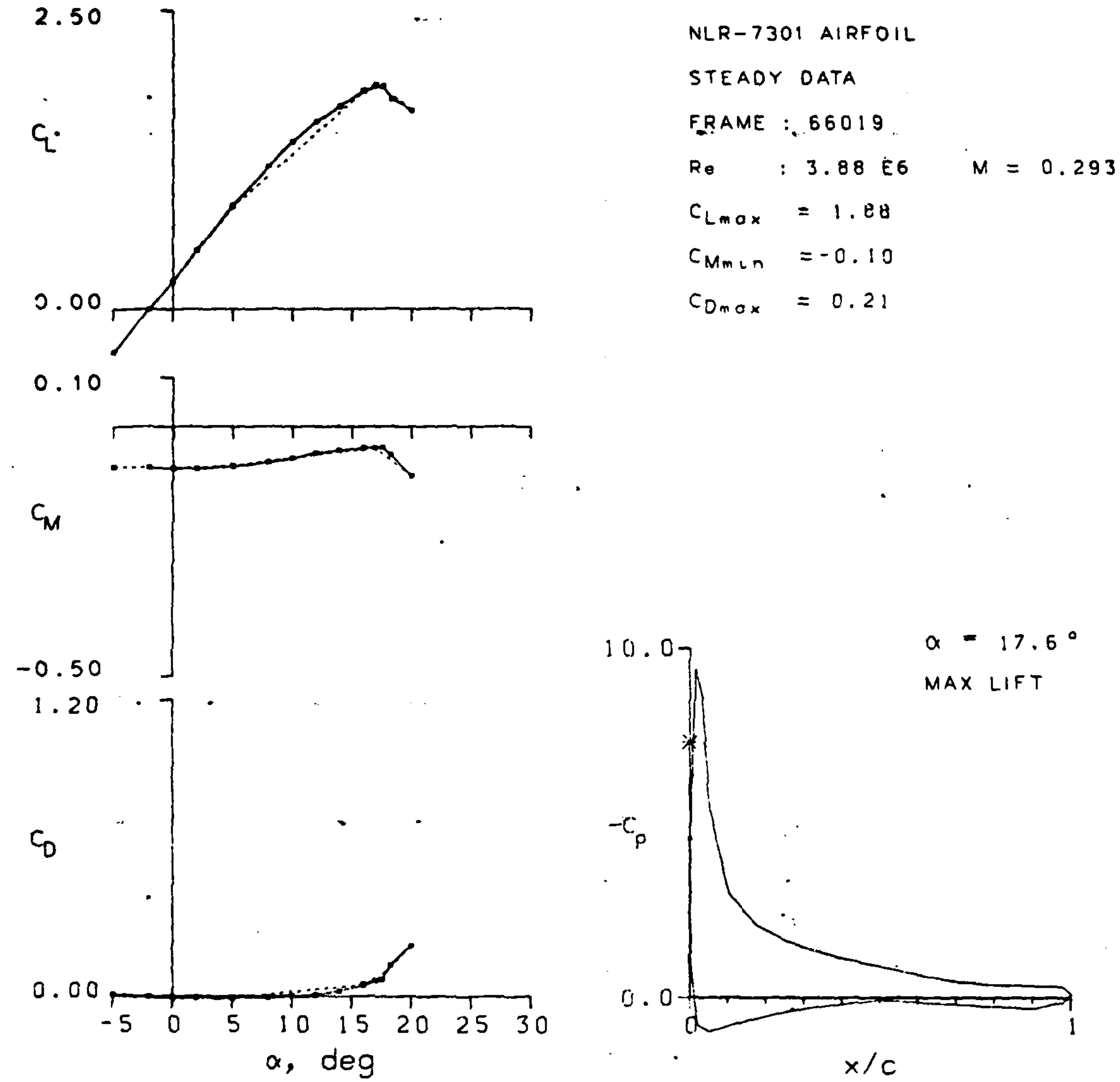


Figure 11.- Static data for NLR-7301 airfoil.

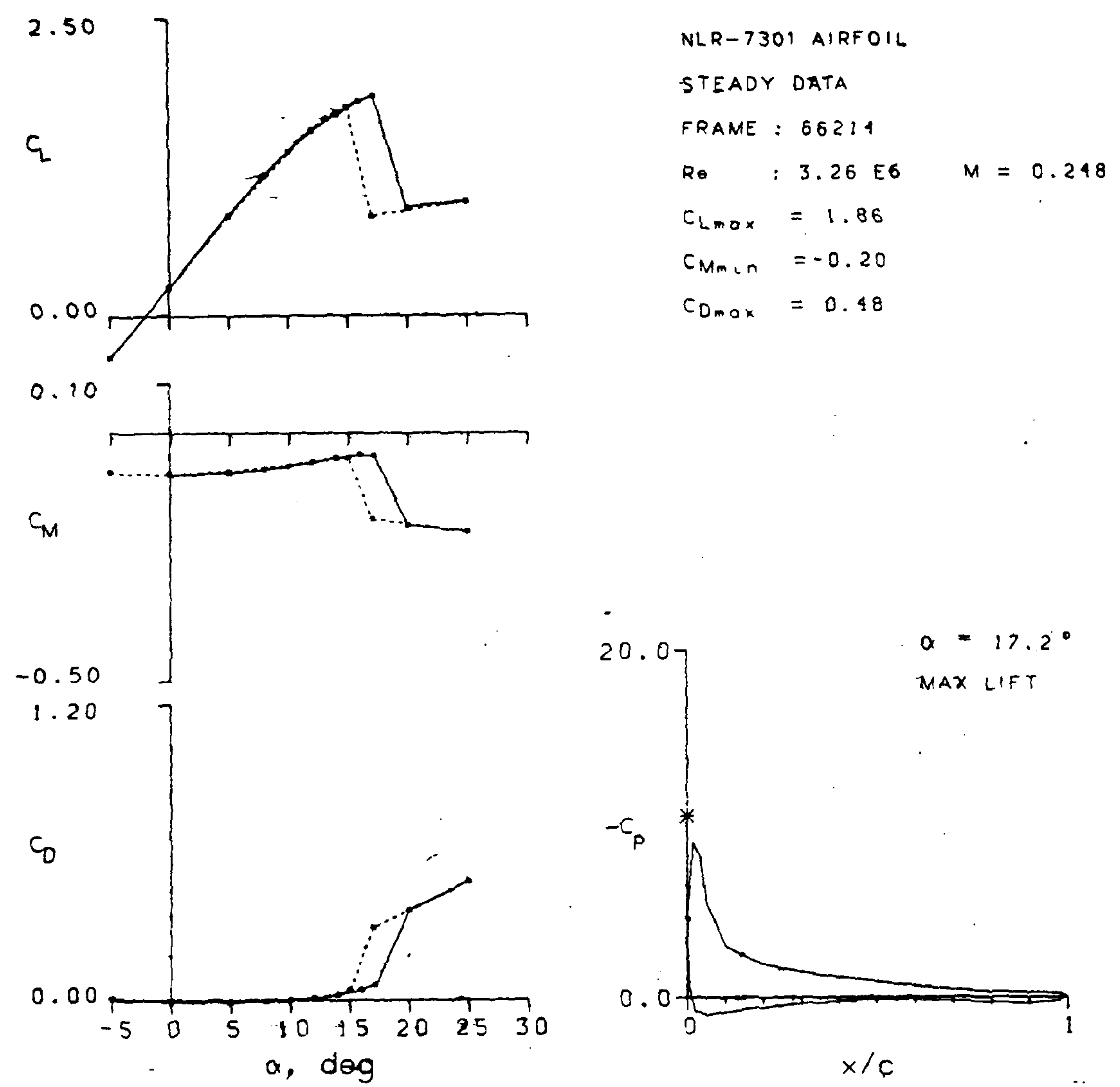


Figure 11.- Continued.

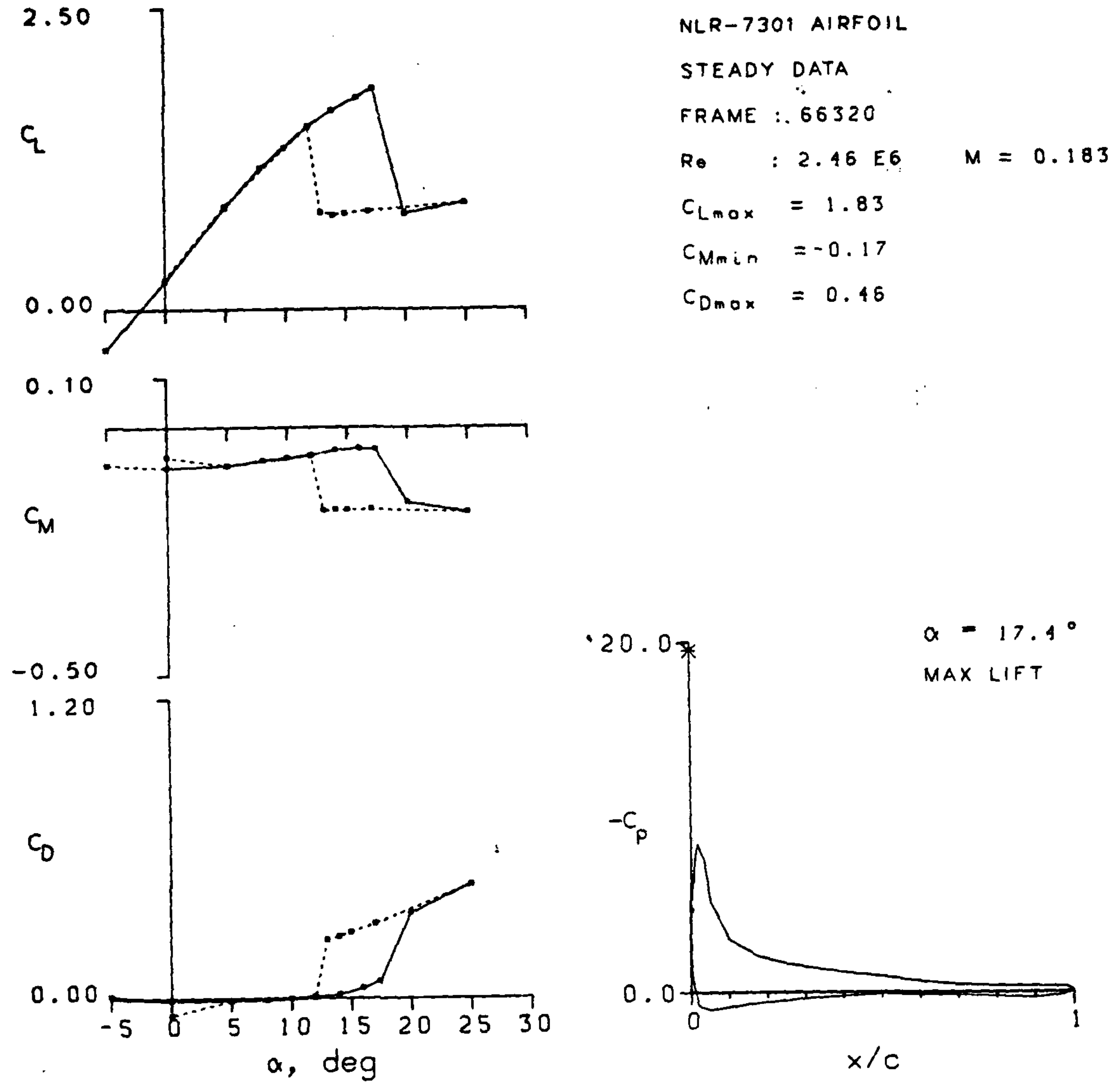


Figure 11.- Continued.

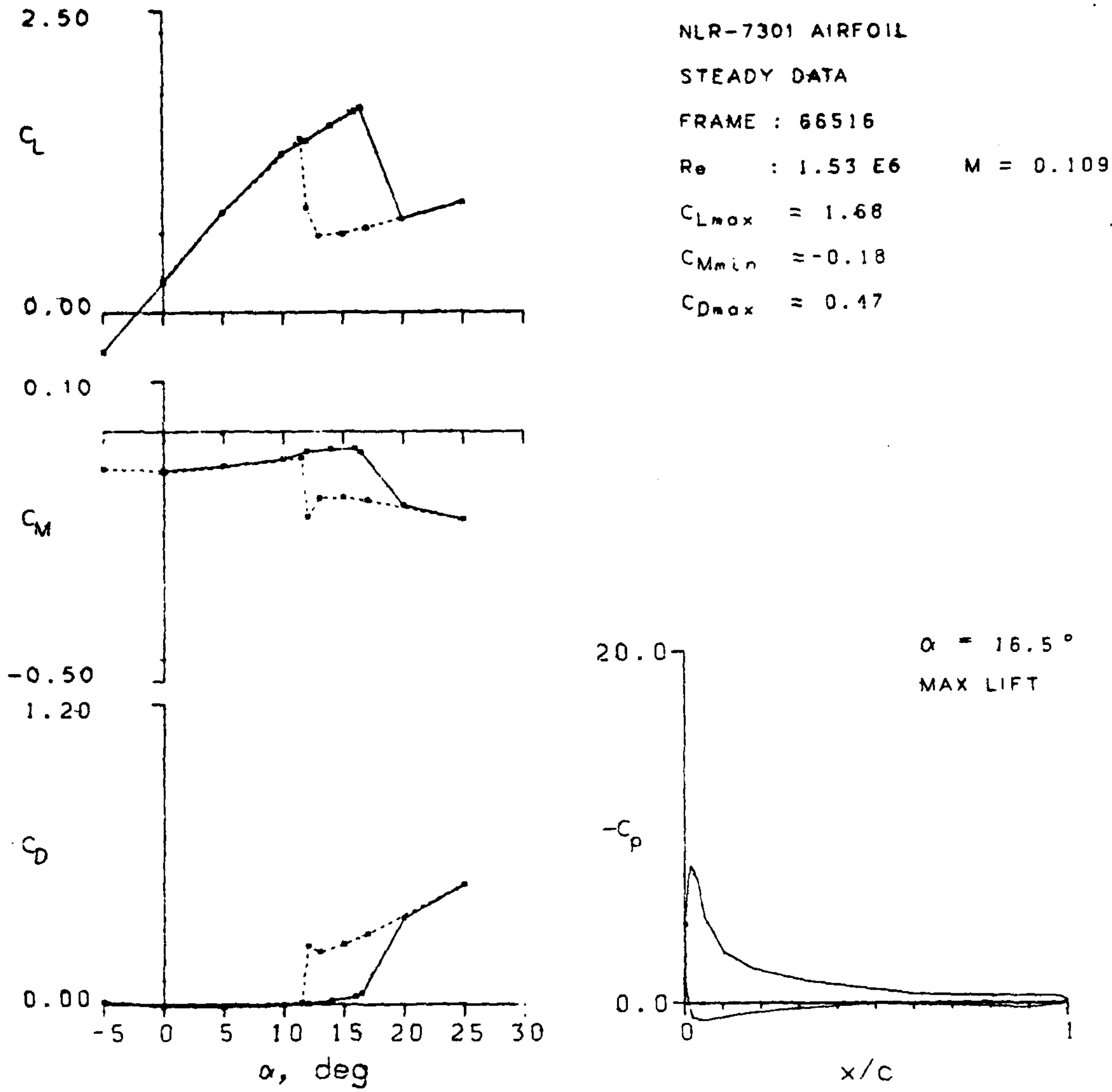


Figure 11.- Continued.

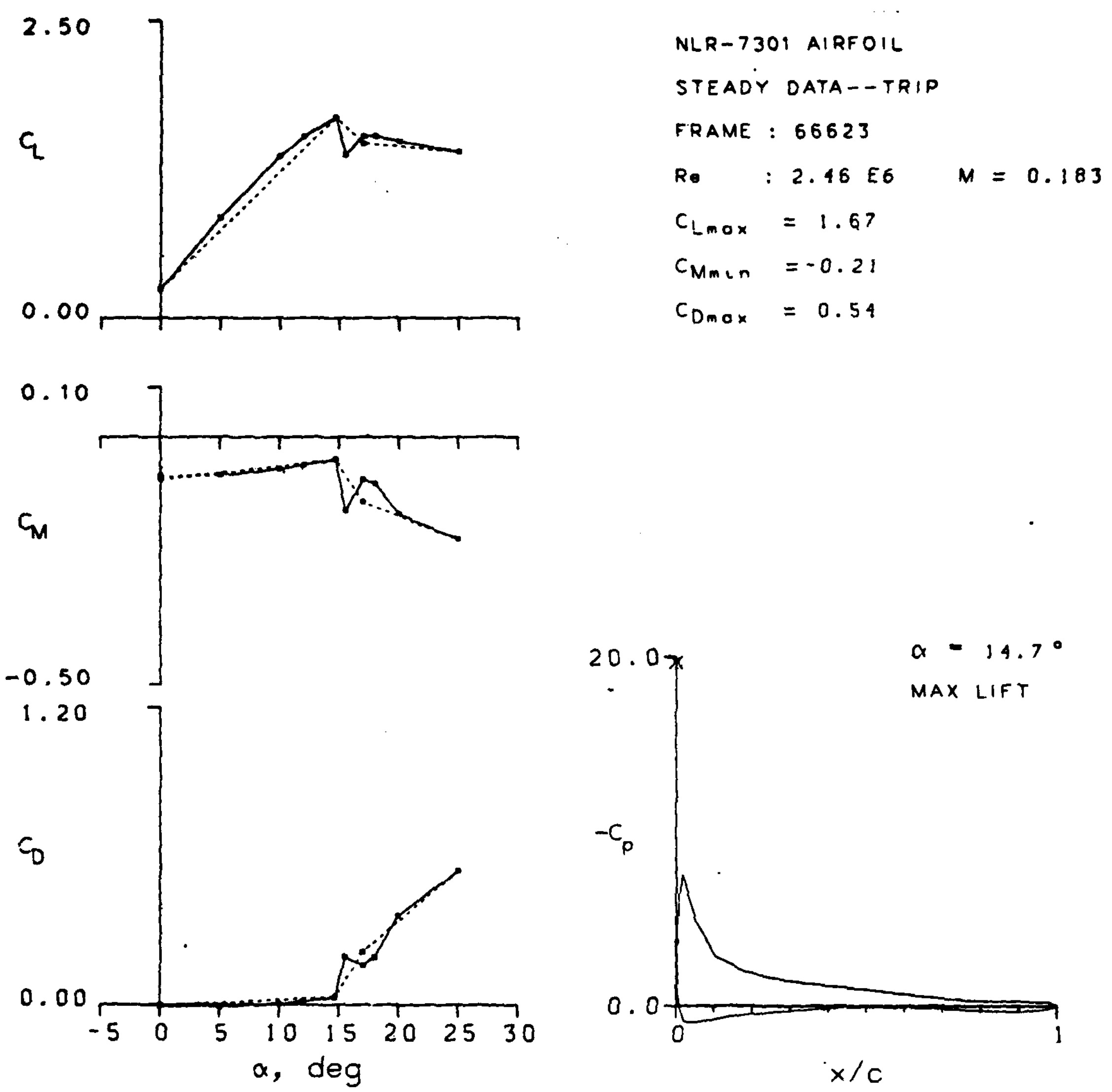


Figure 11.- Continued.

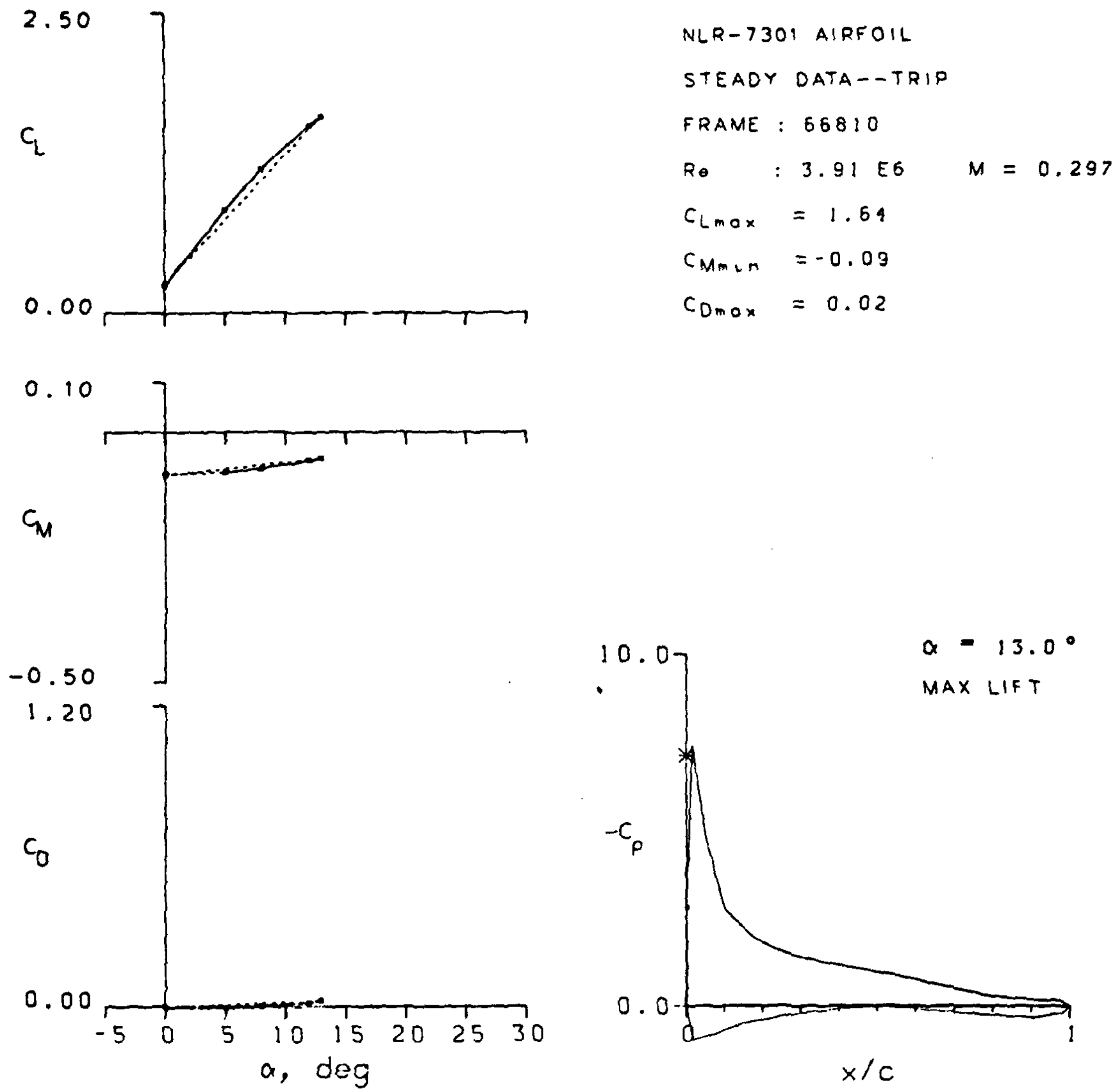


Figure 11.- Concluded.

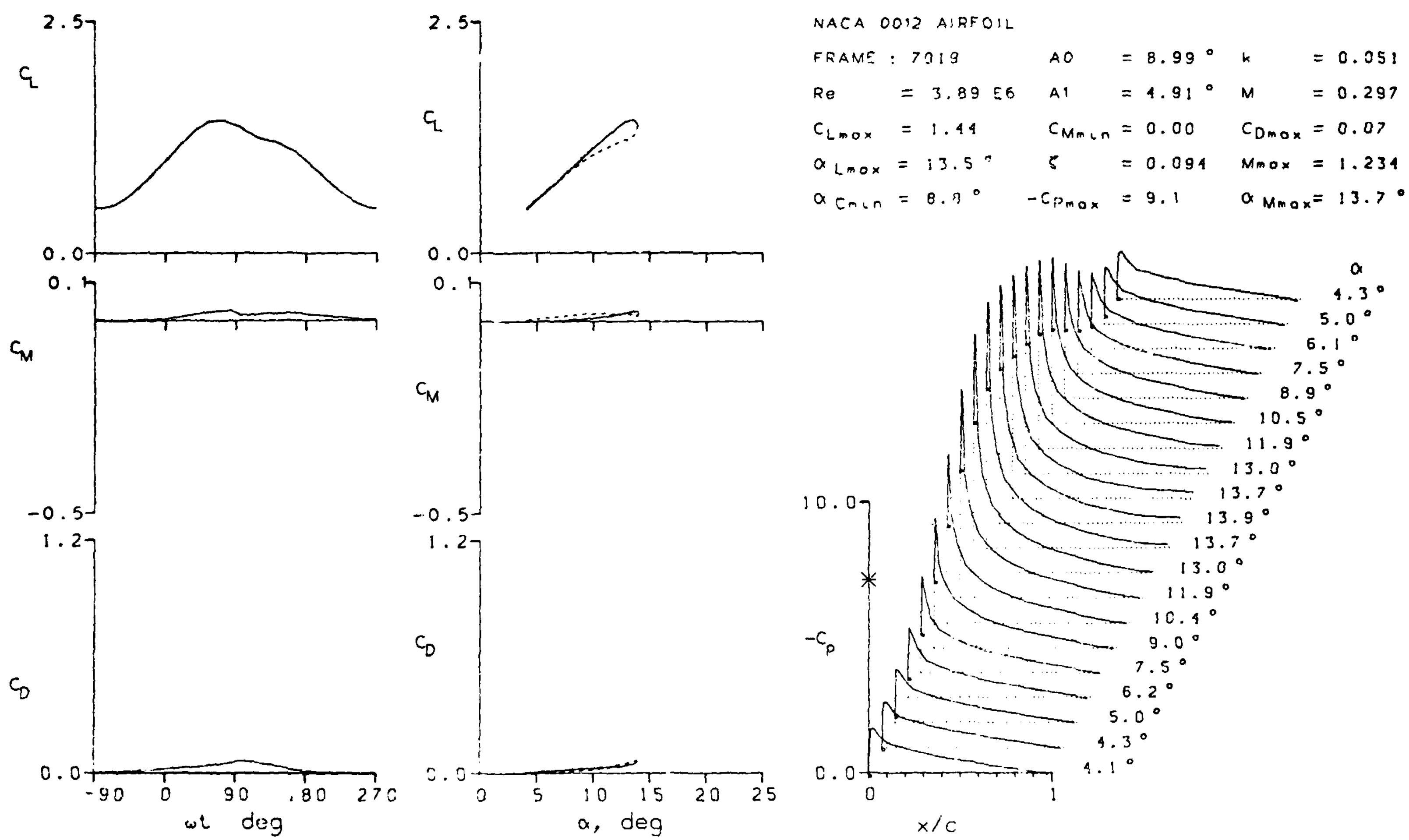


Figure 12.- dynamic data for NACA 0012 airfoil.

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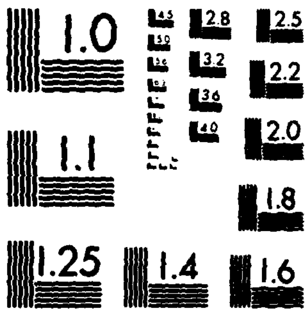
UNCLASSIFIED K W MCALISTER ET AL. SEP 82 F/G 20/4 NL



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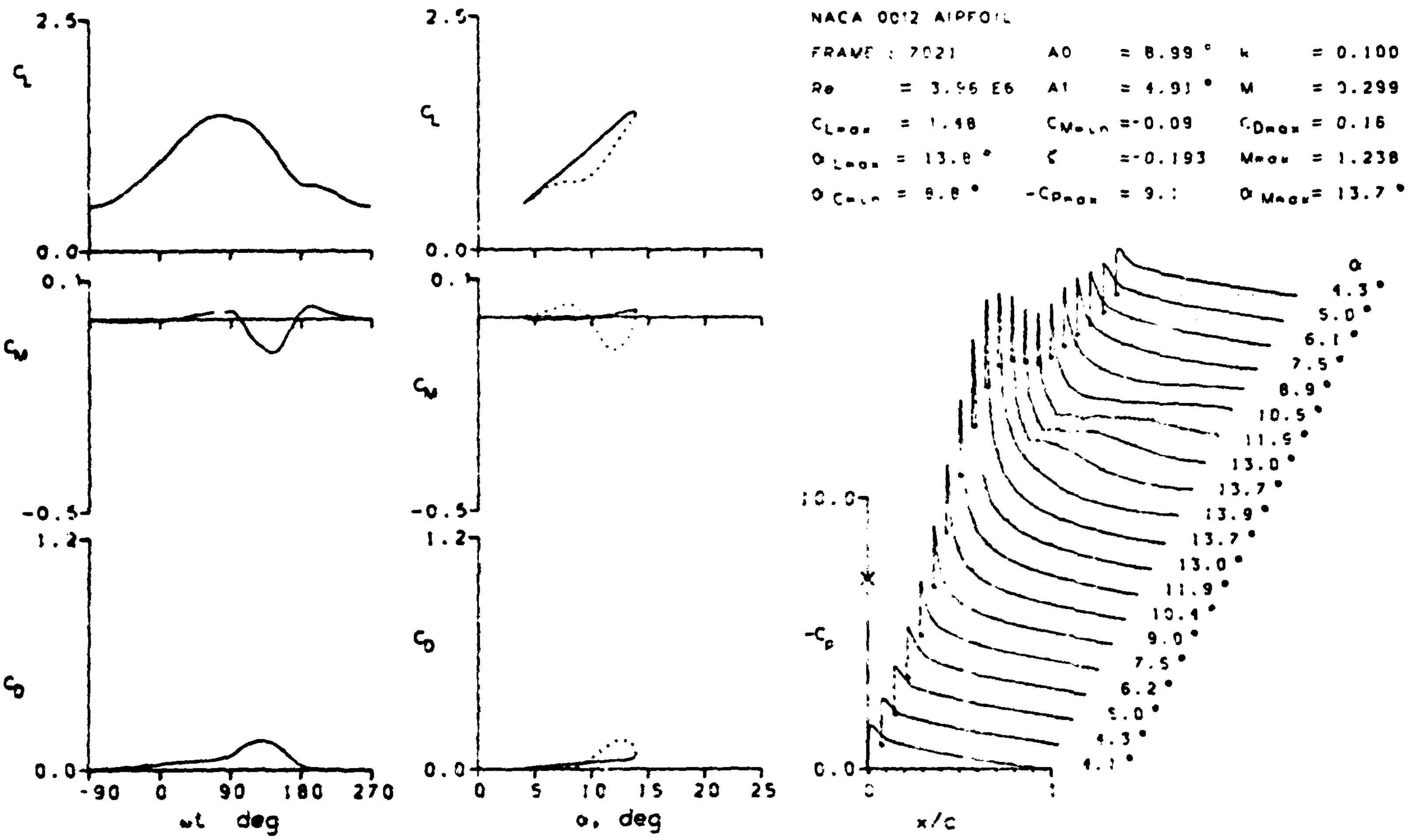

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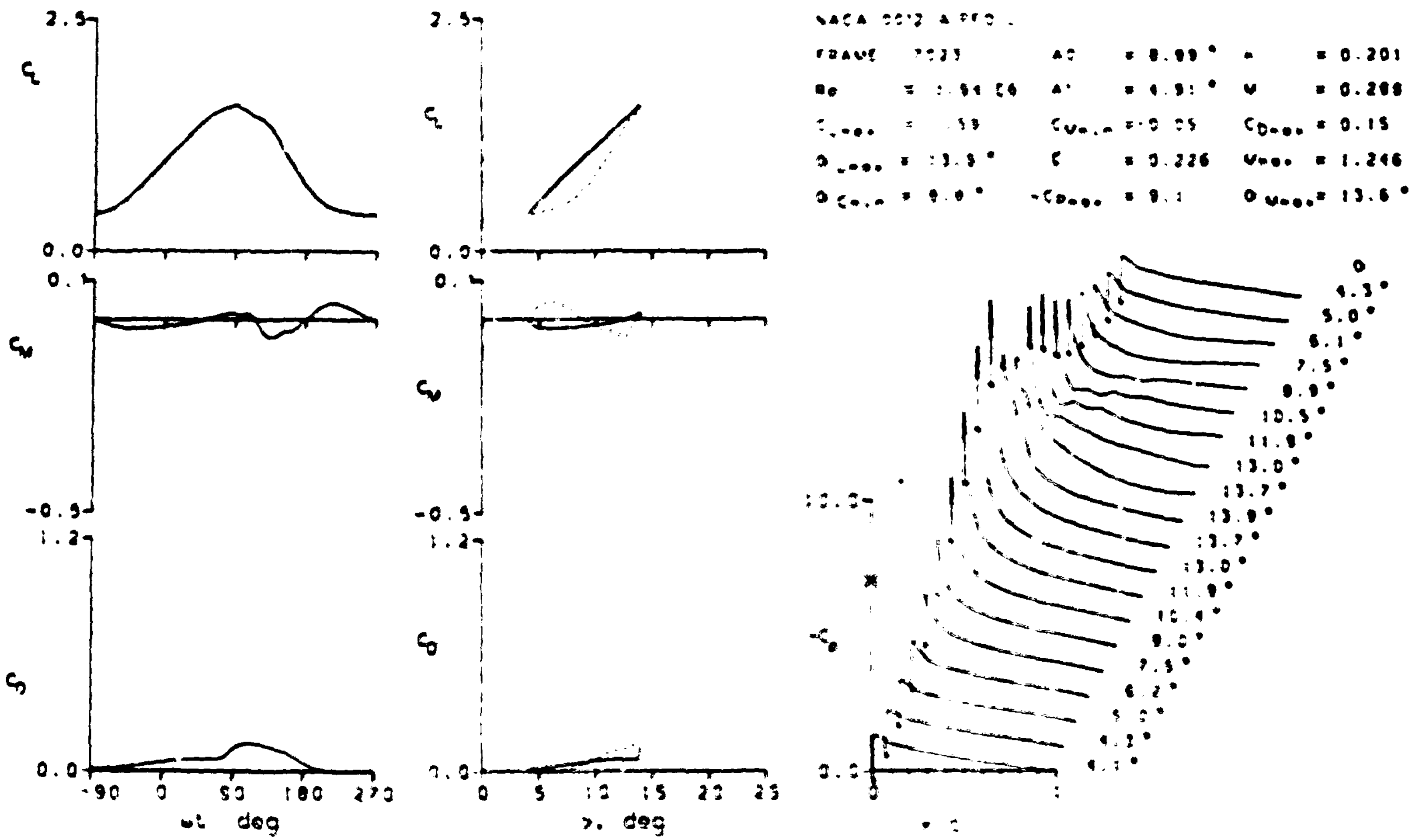

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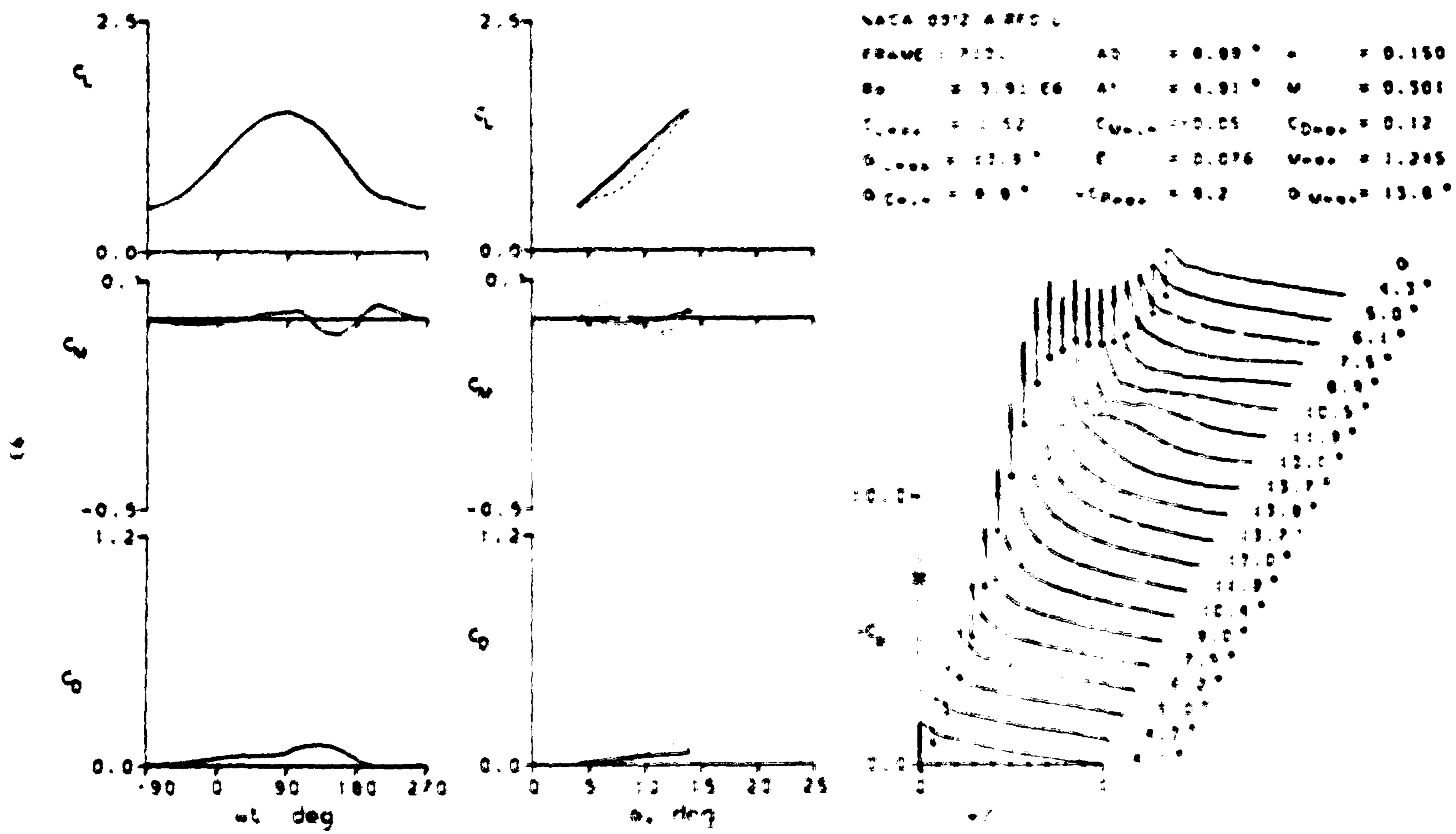

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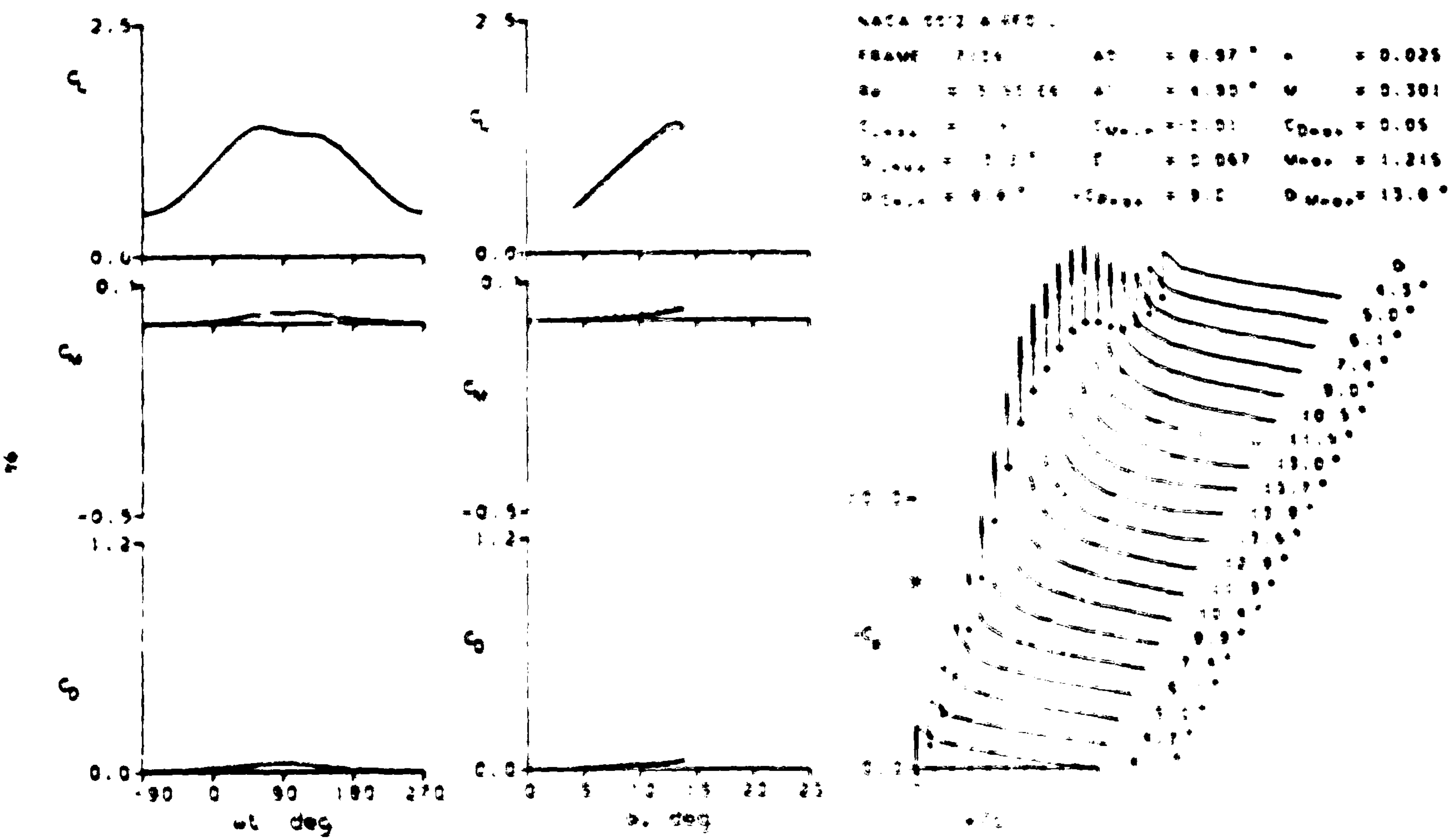

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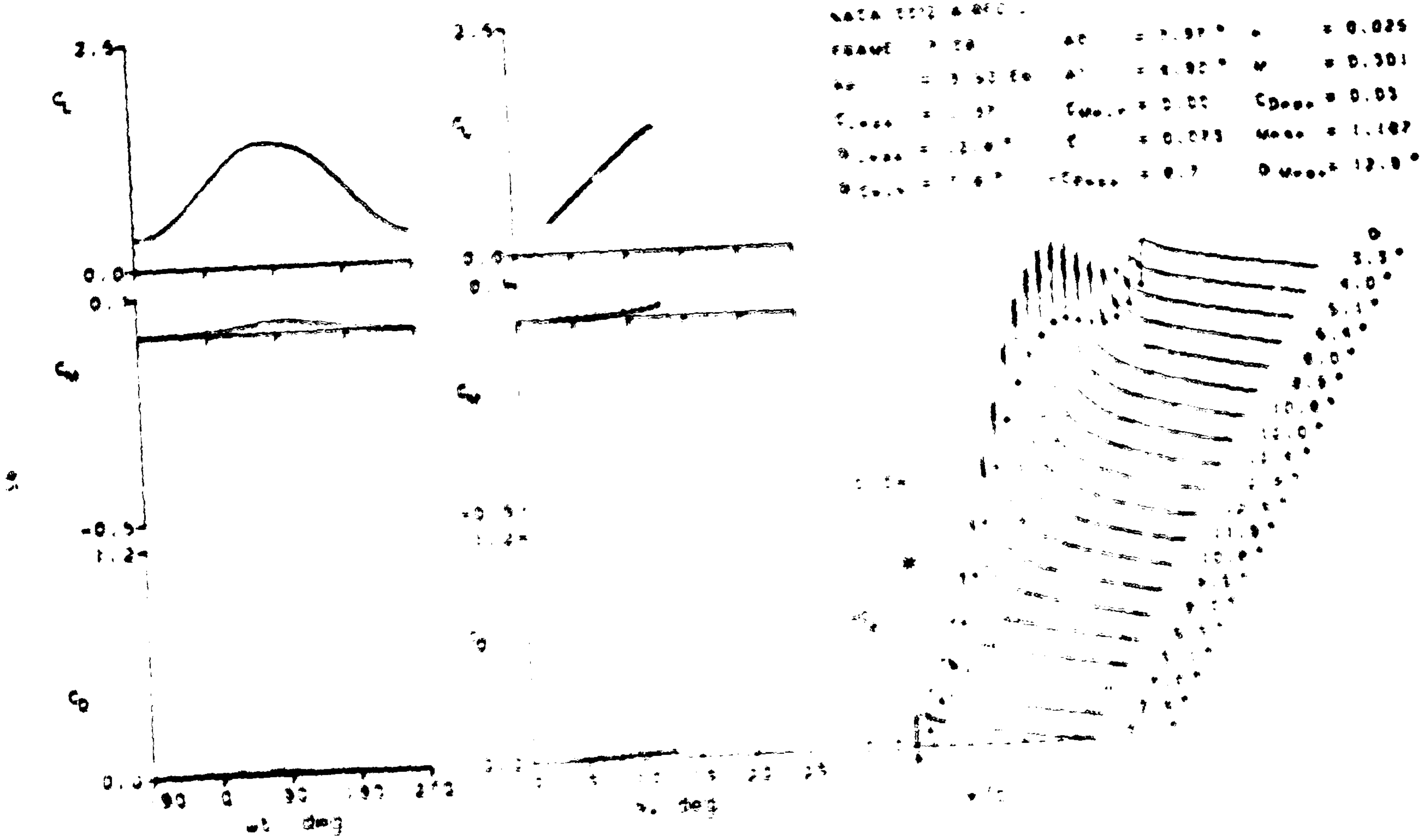

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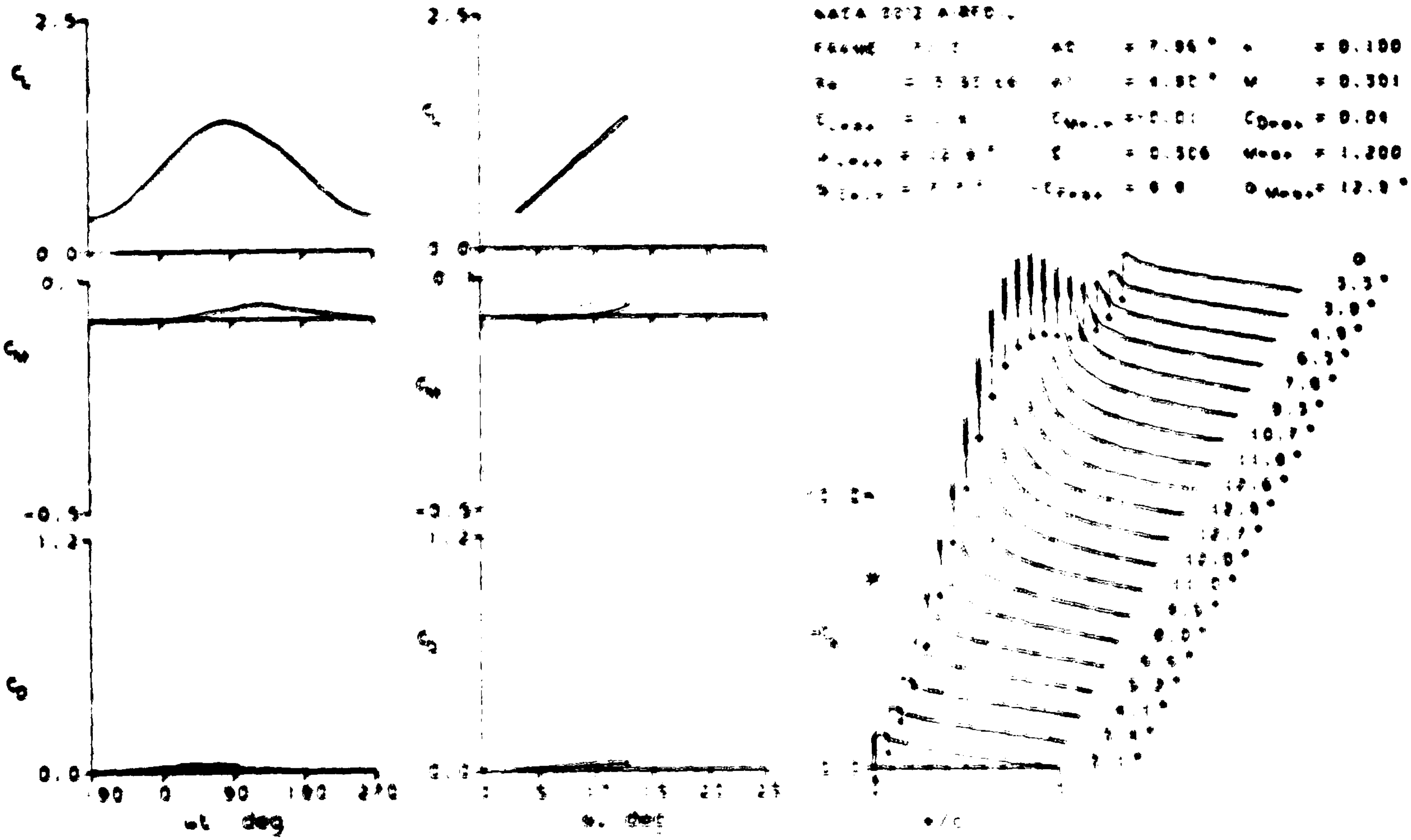

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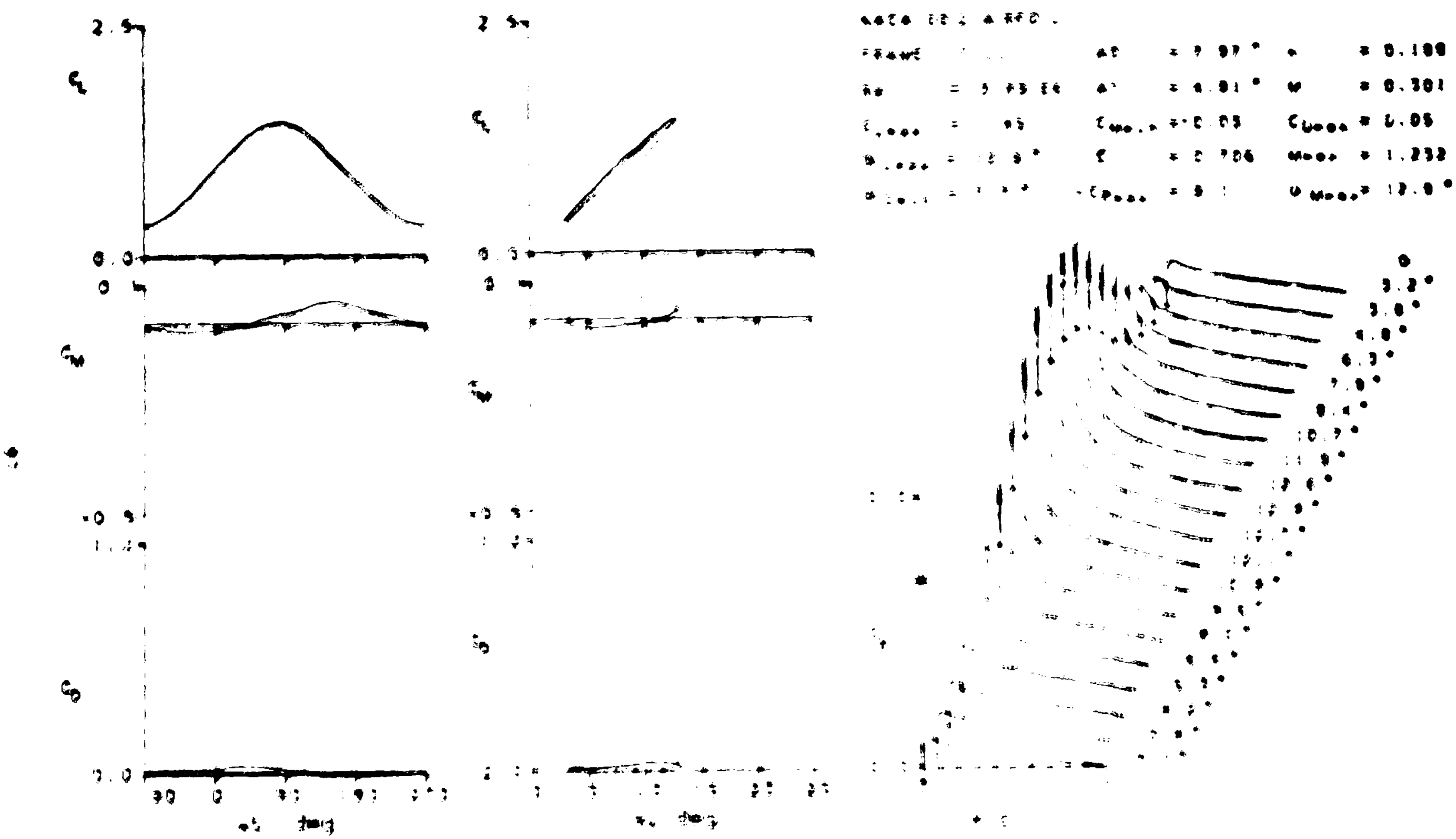

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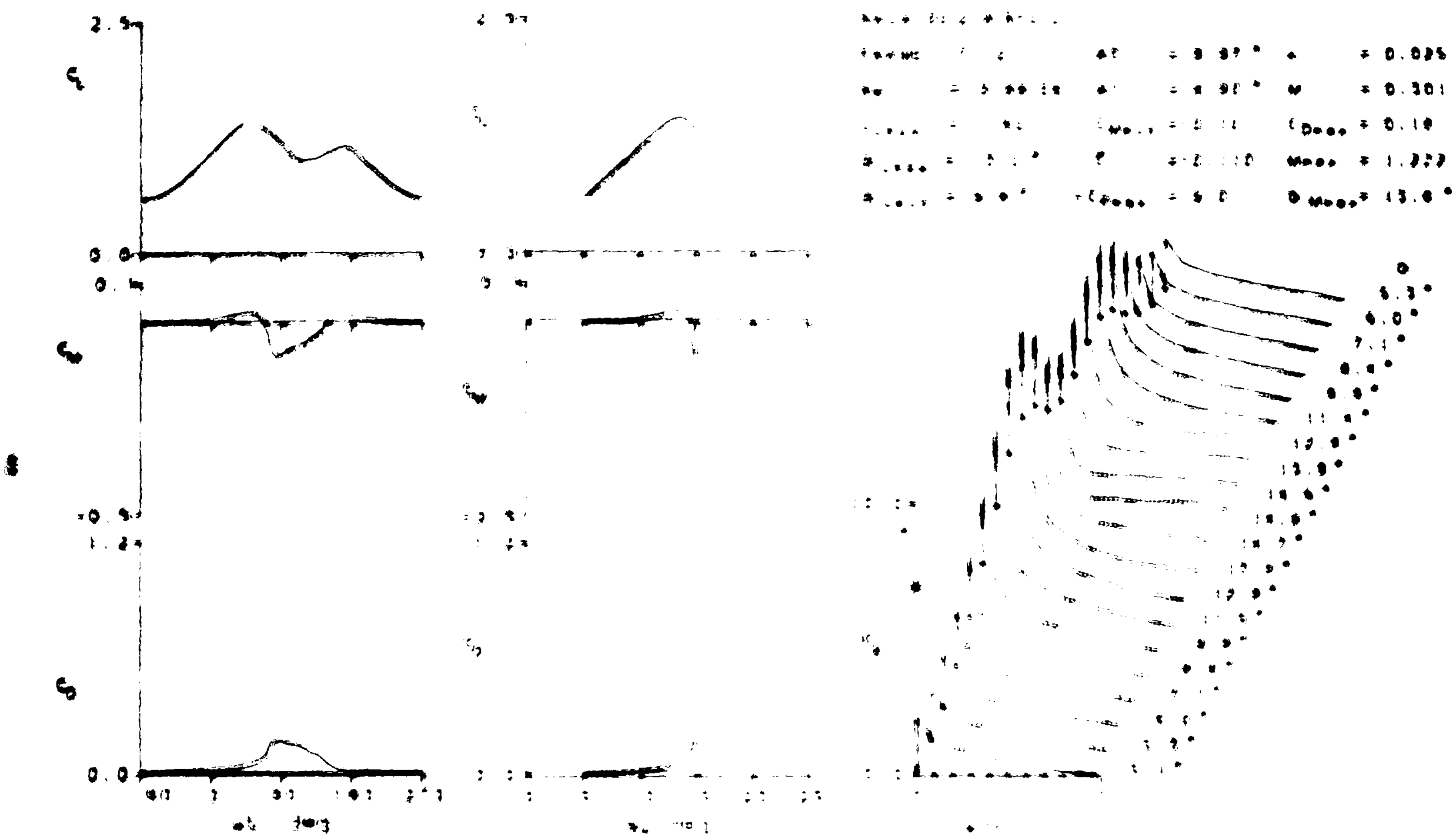

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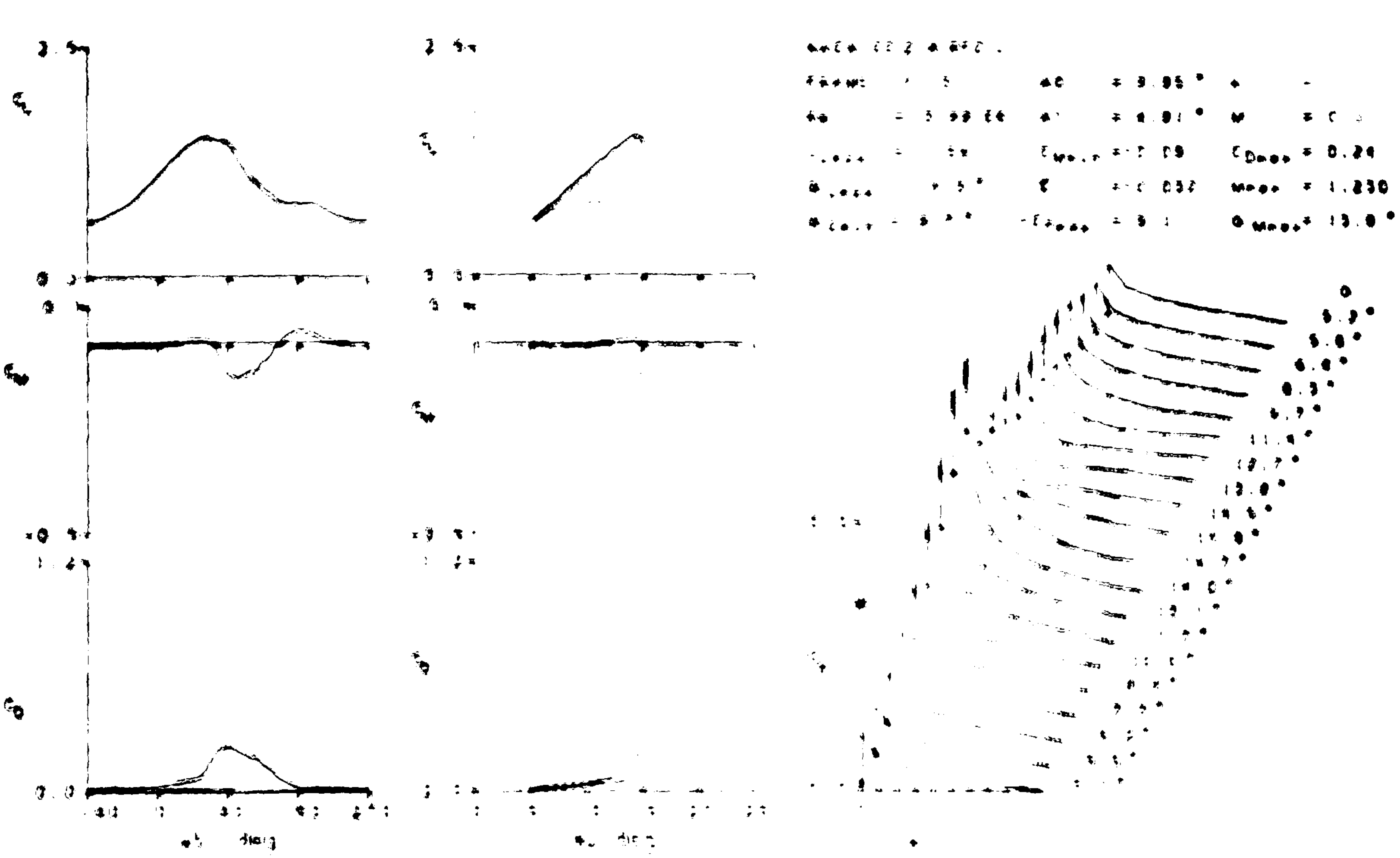

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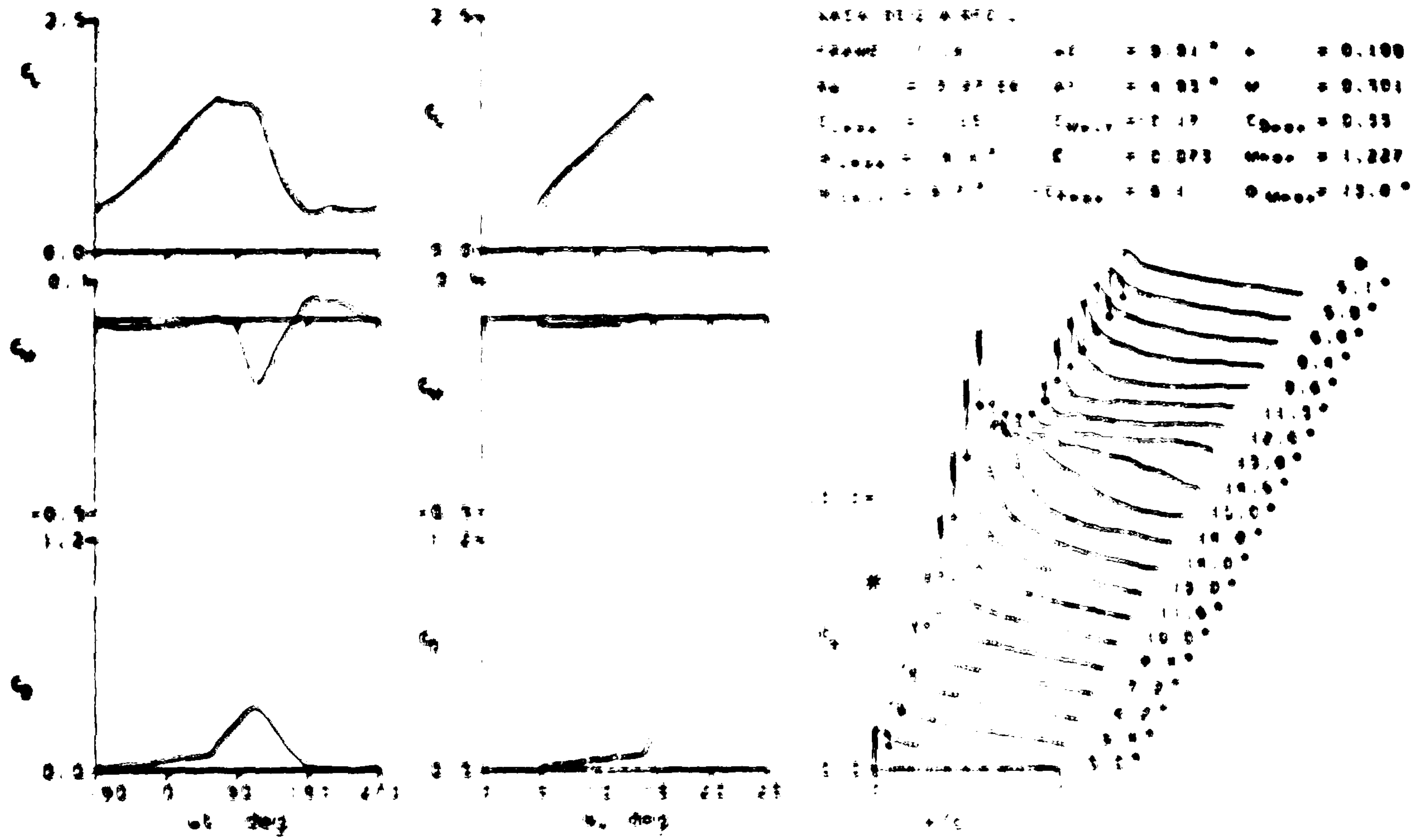

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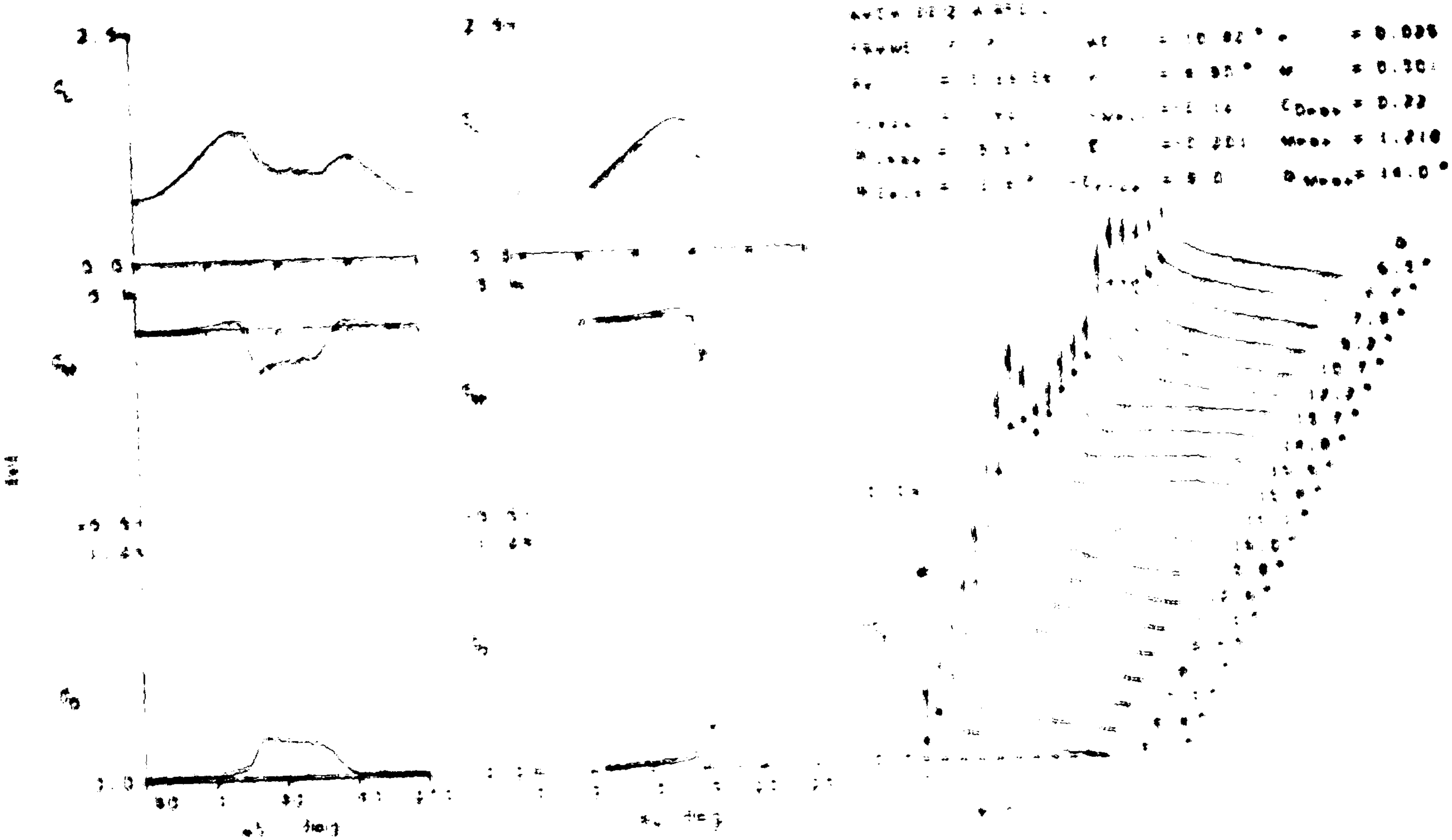

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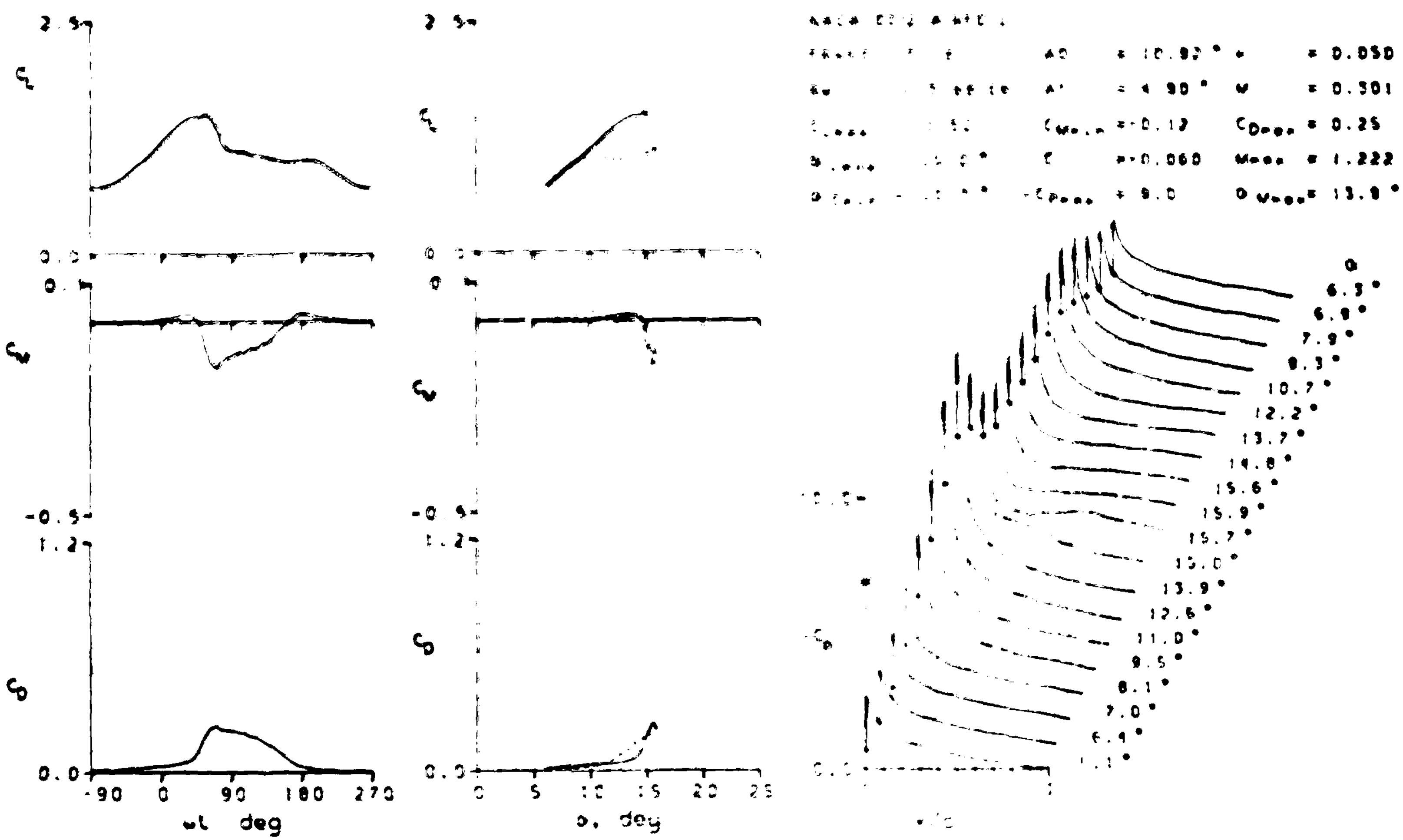

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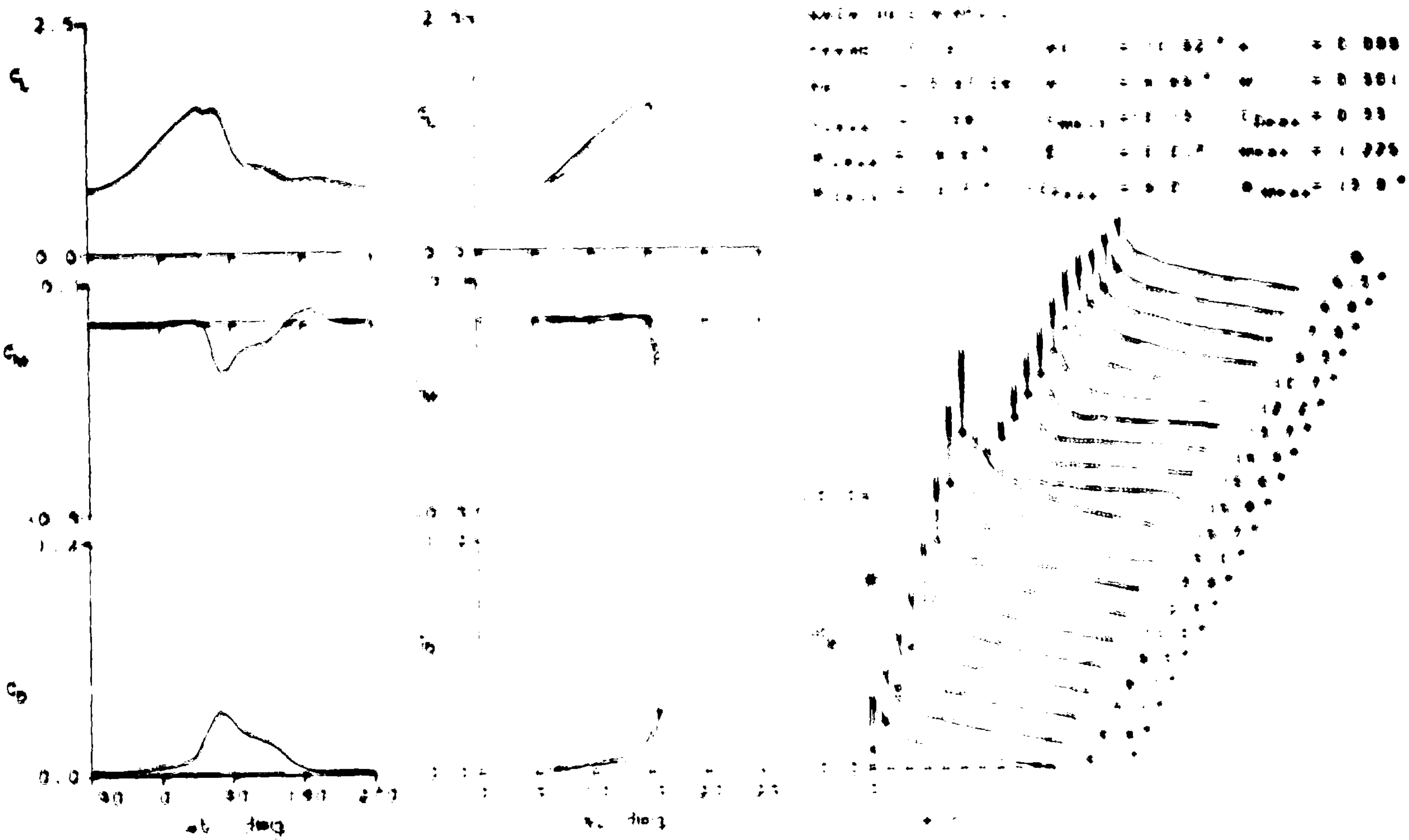

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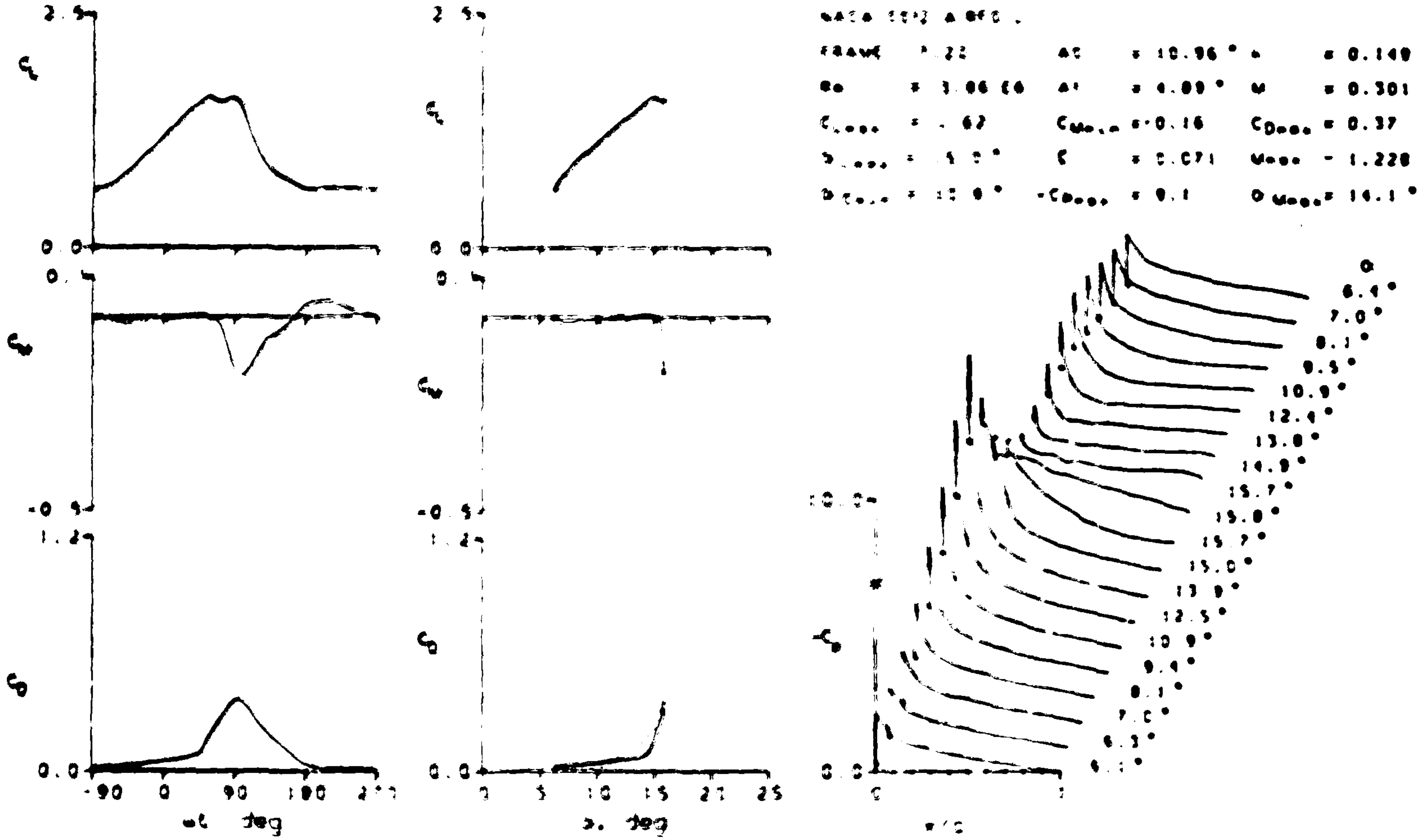

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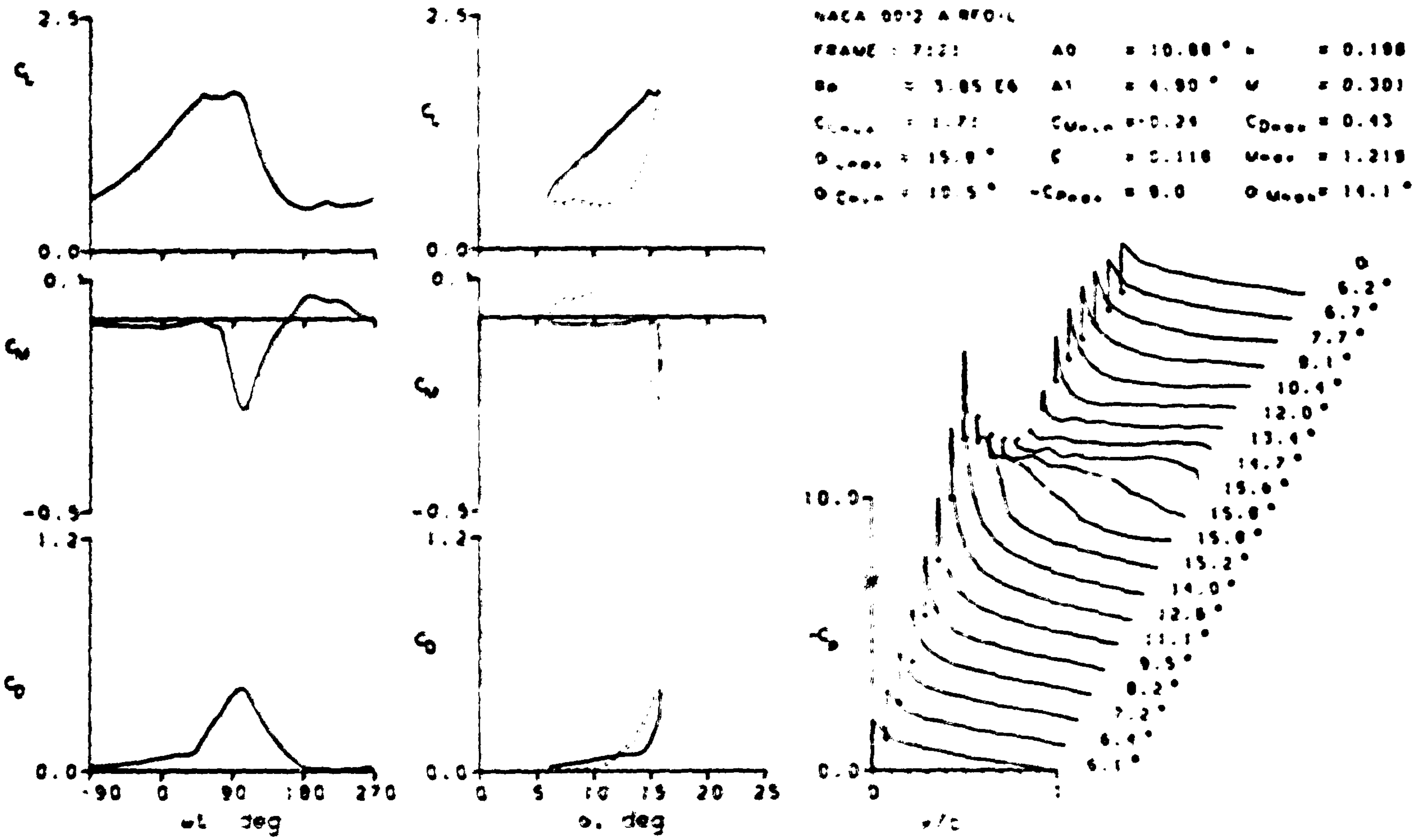

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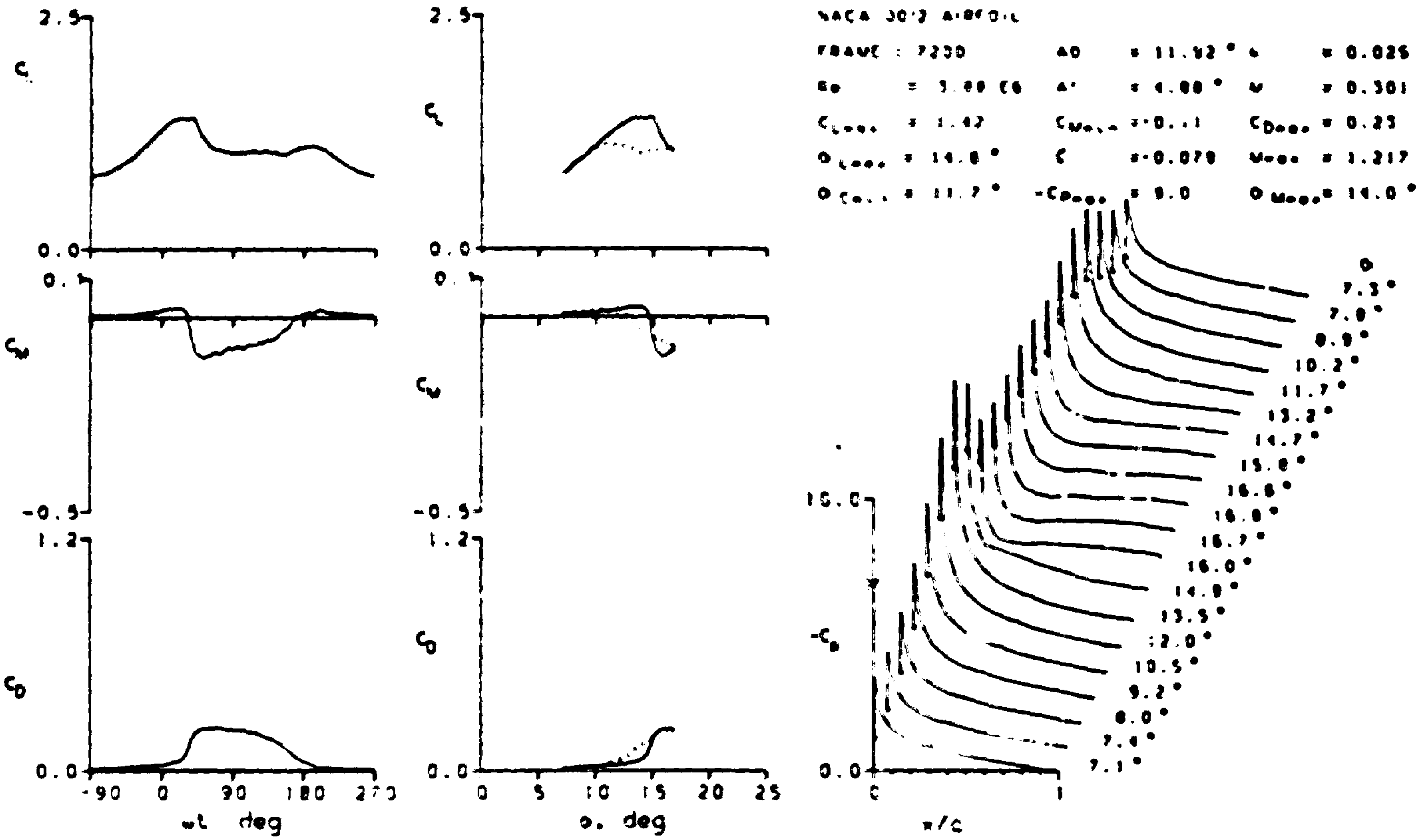

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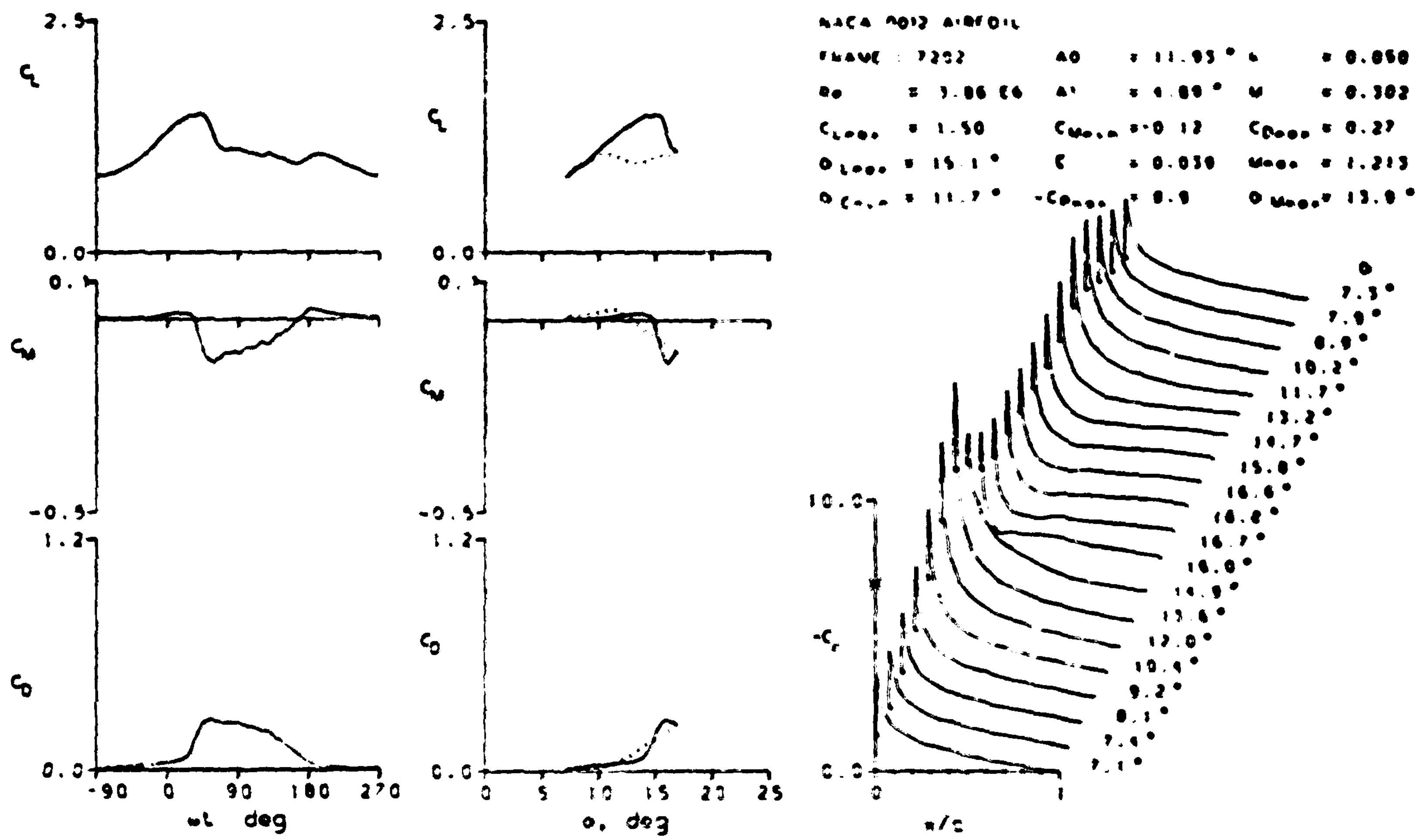

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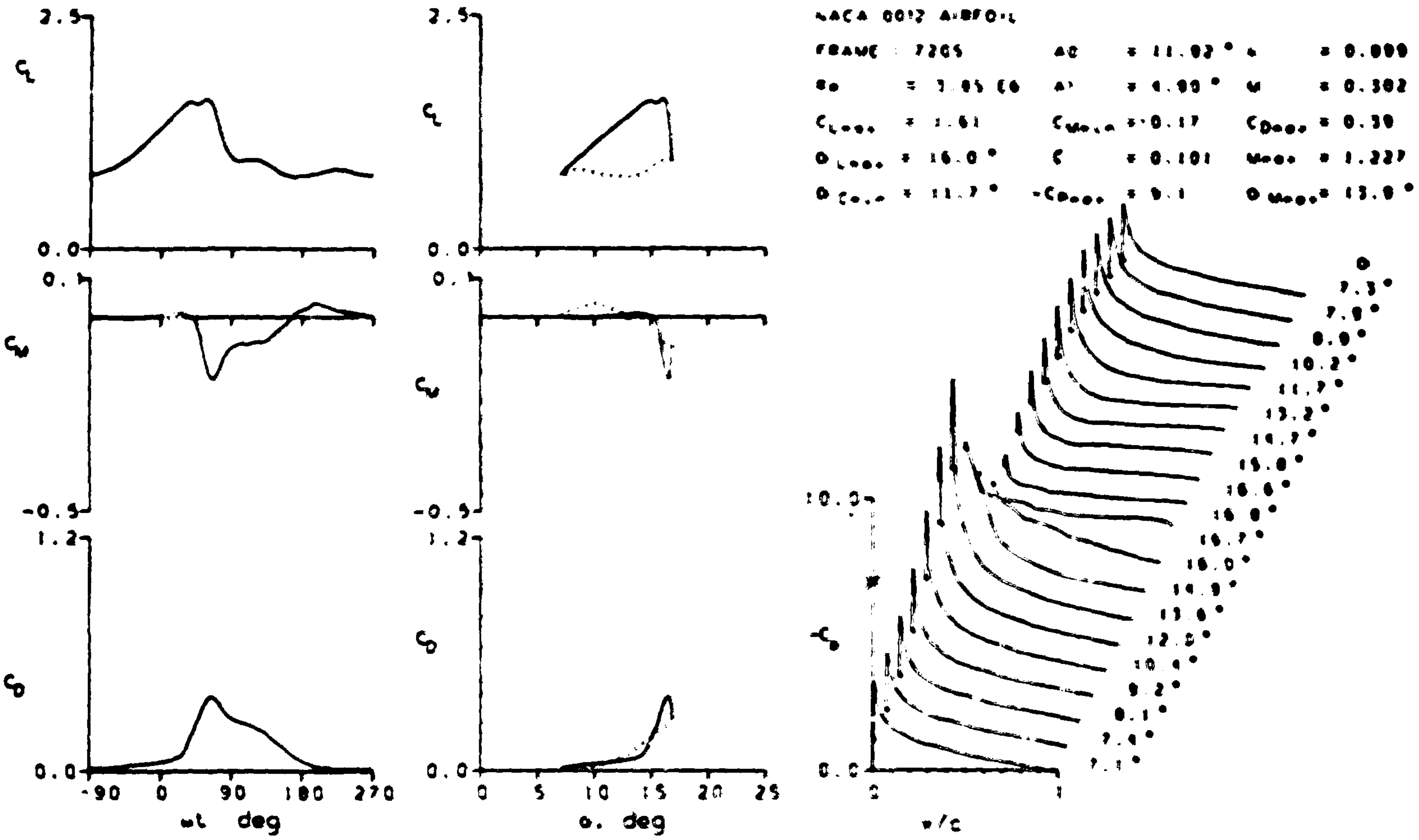

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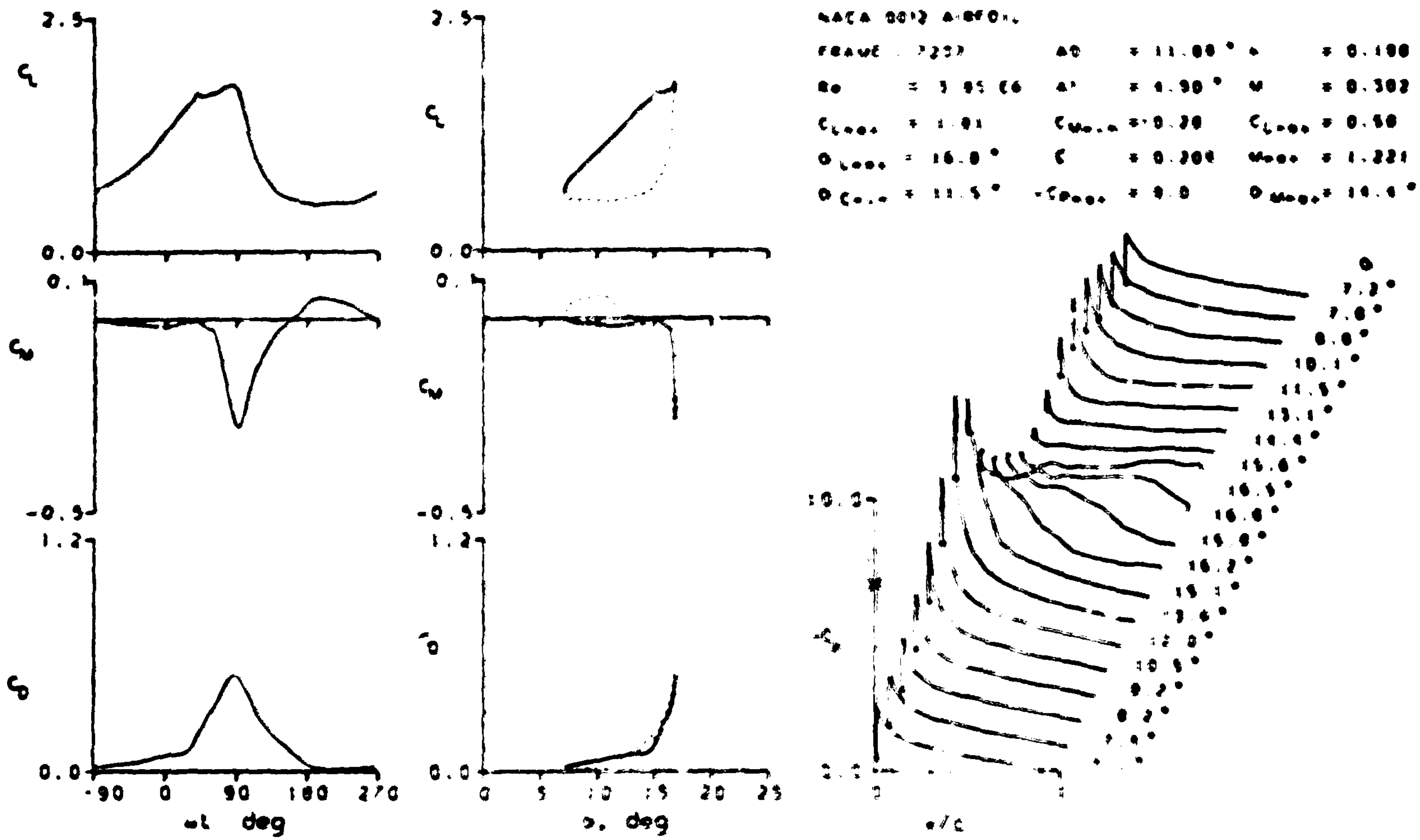

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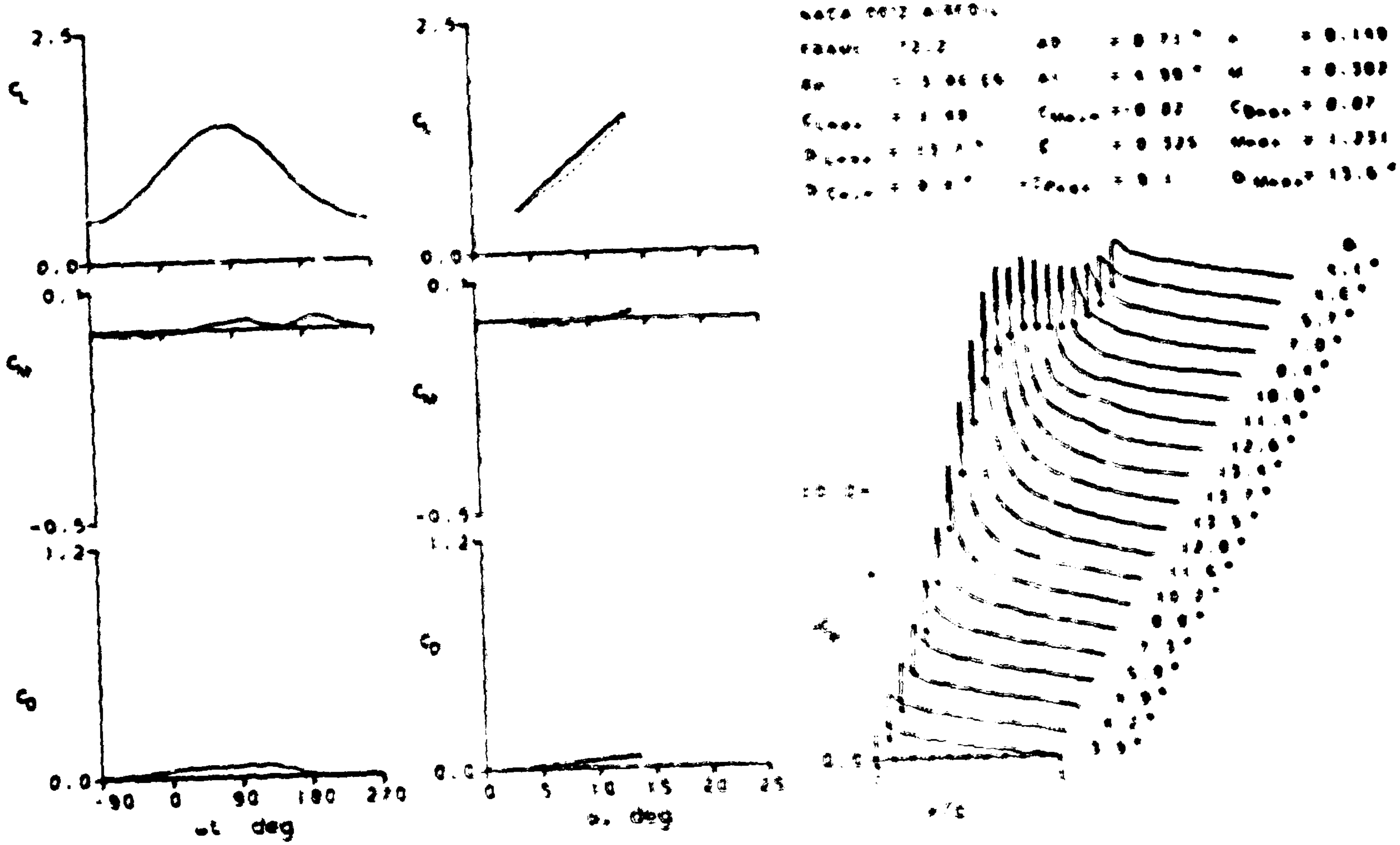

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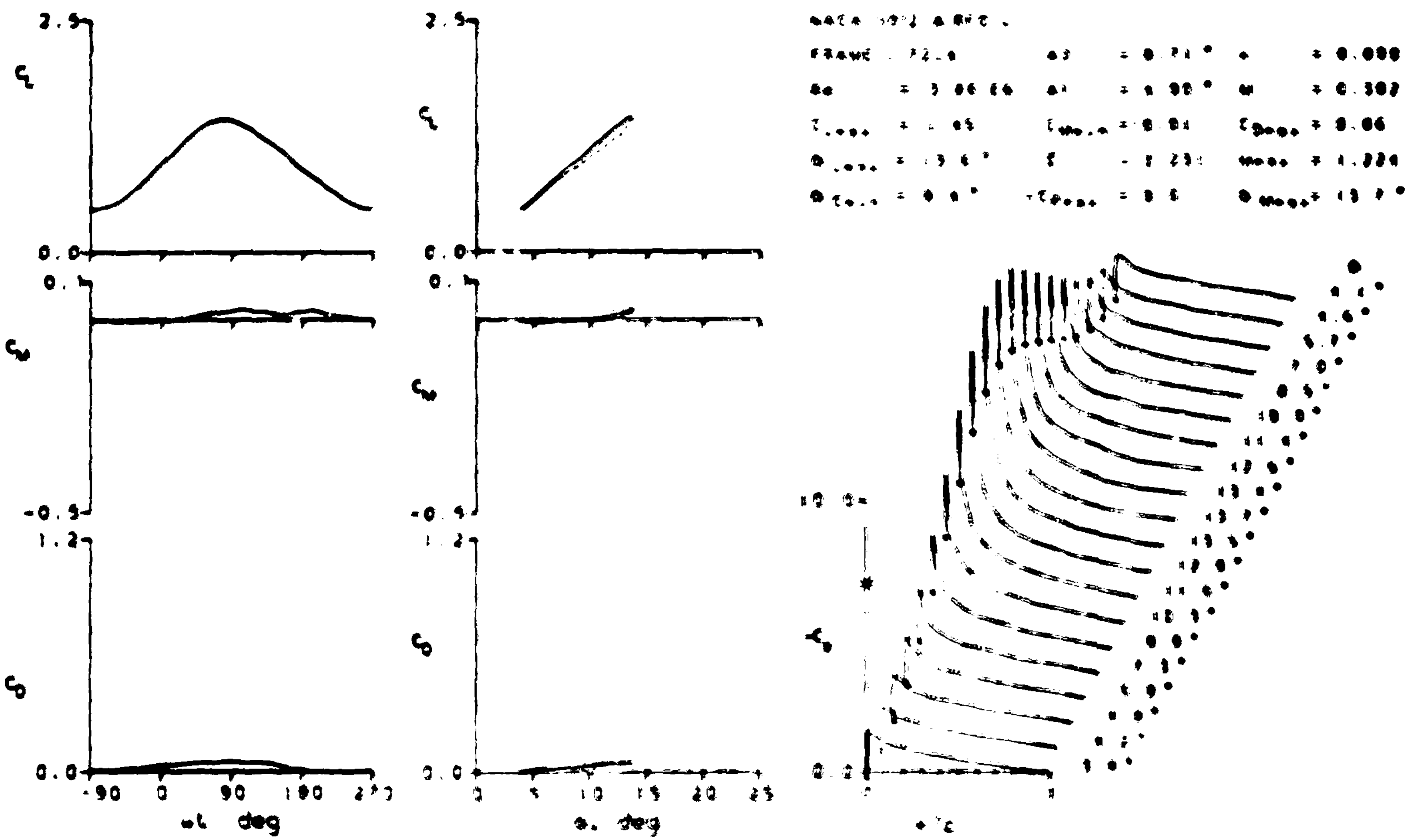

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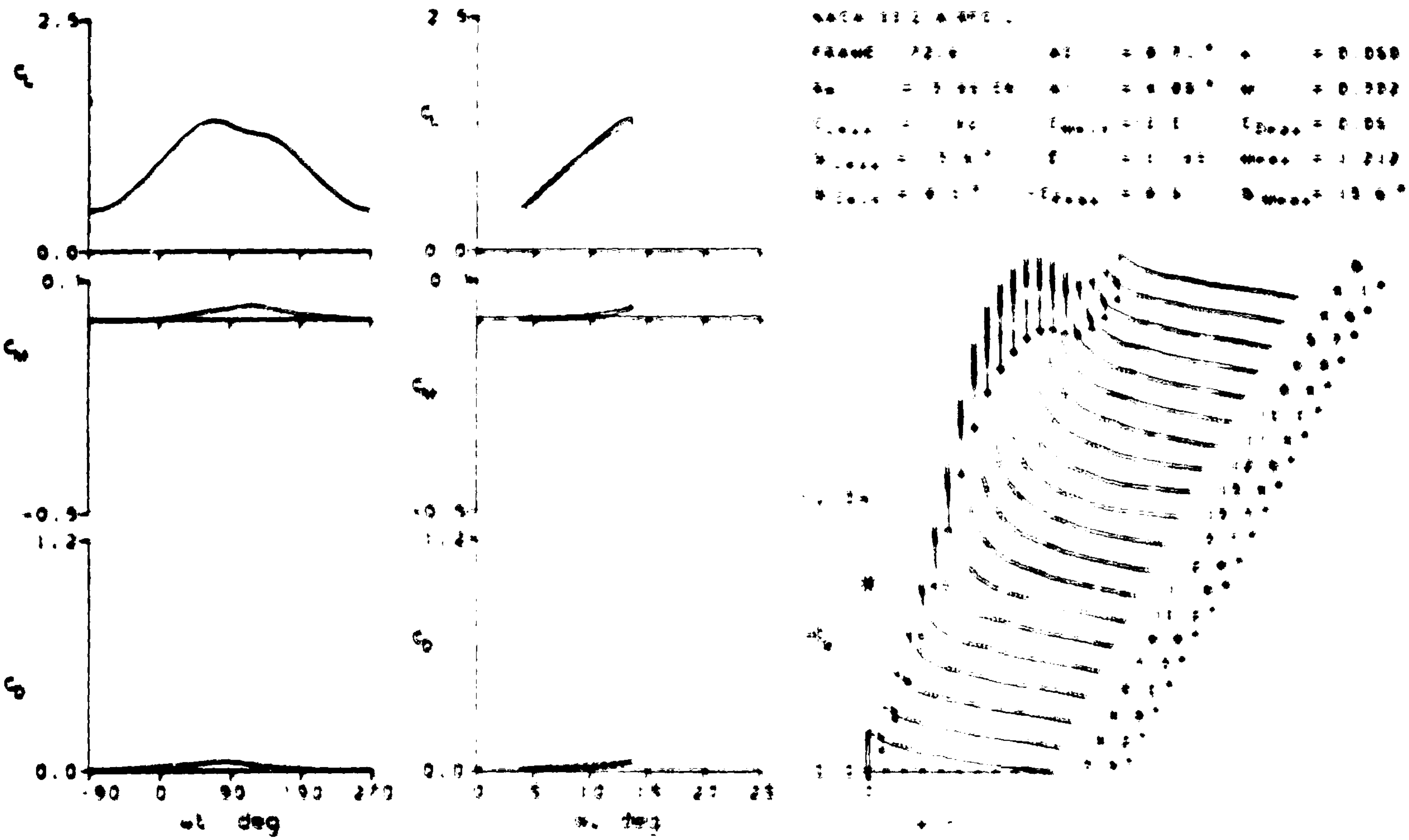

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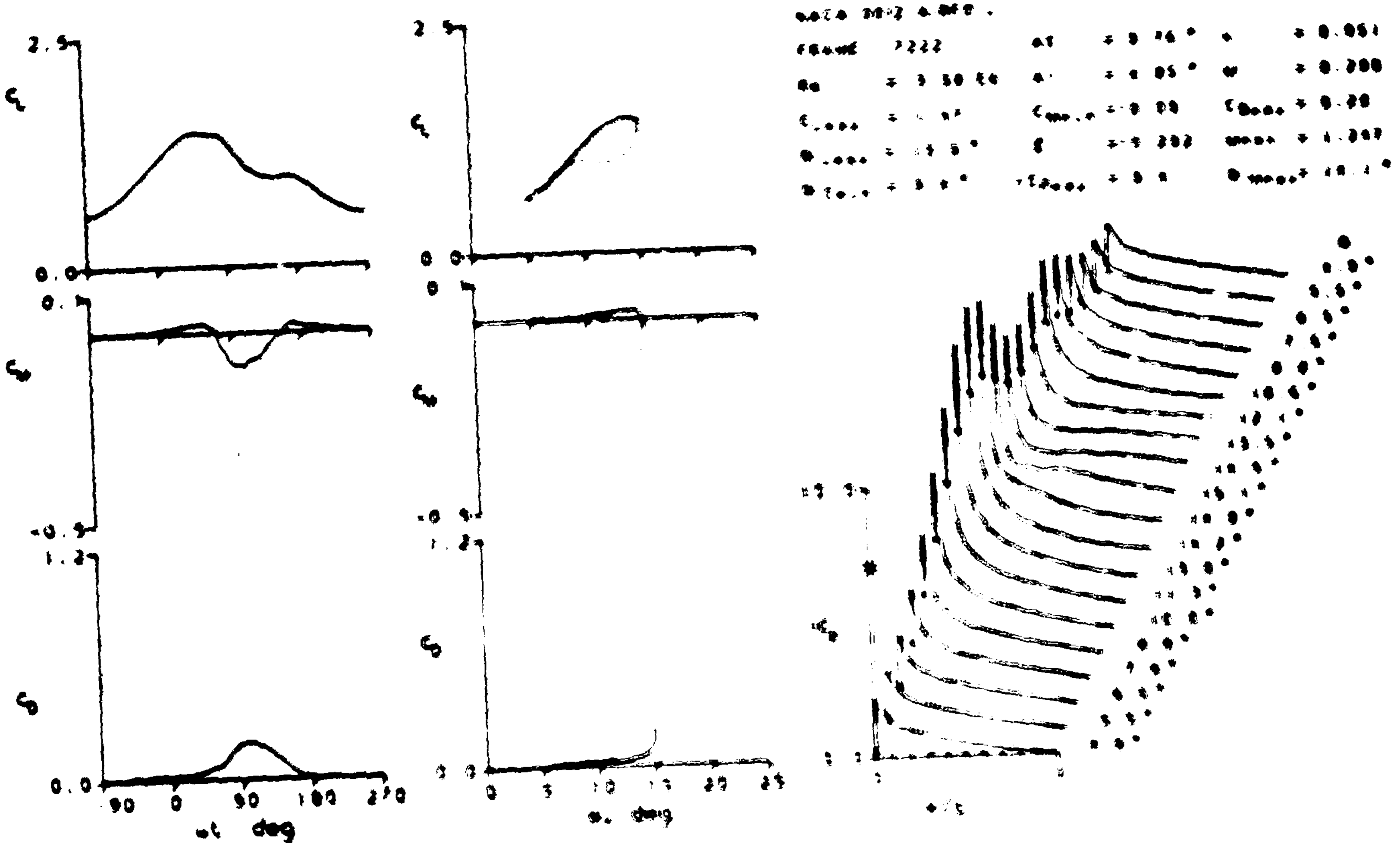

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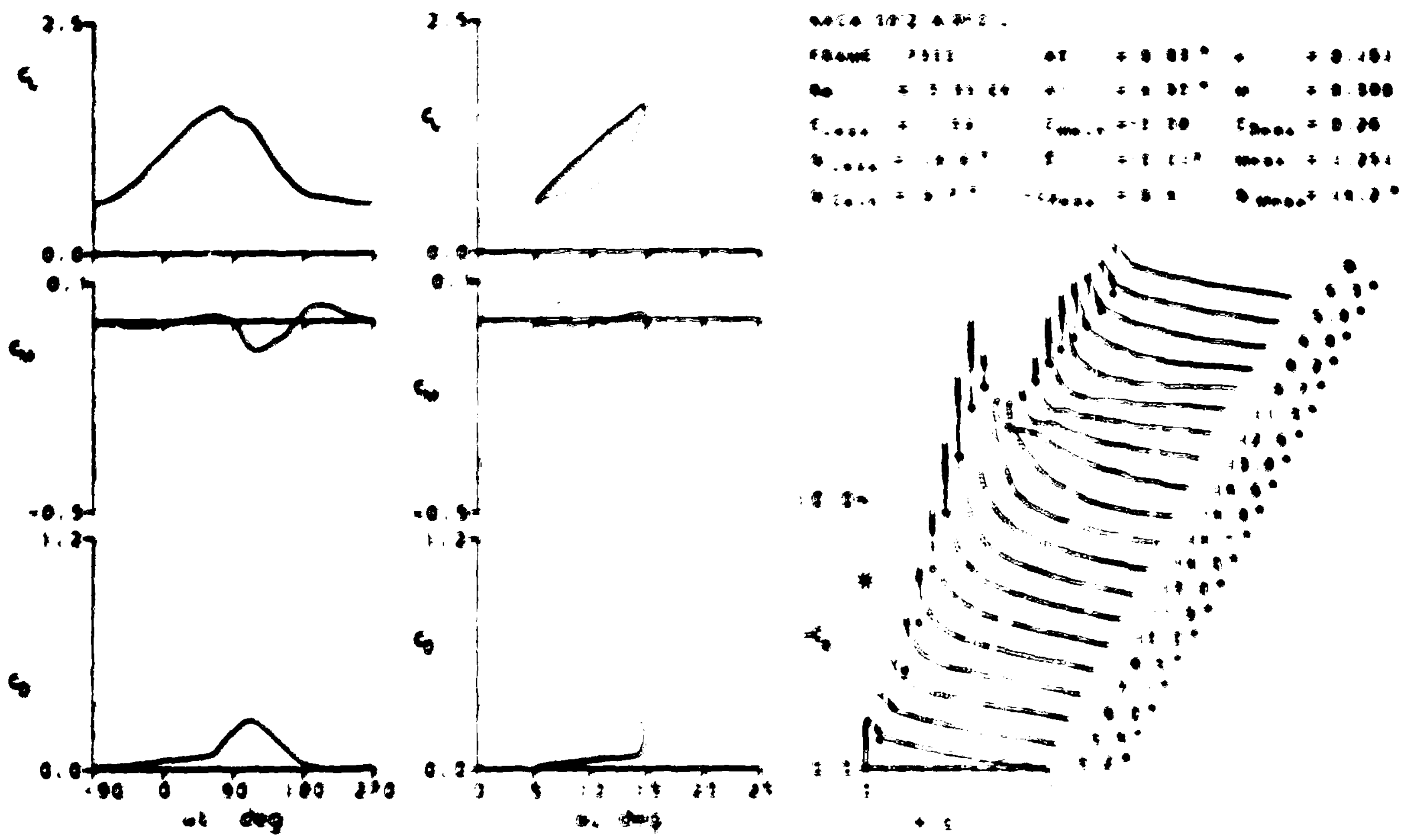

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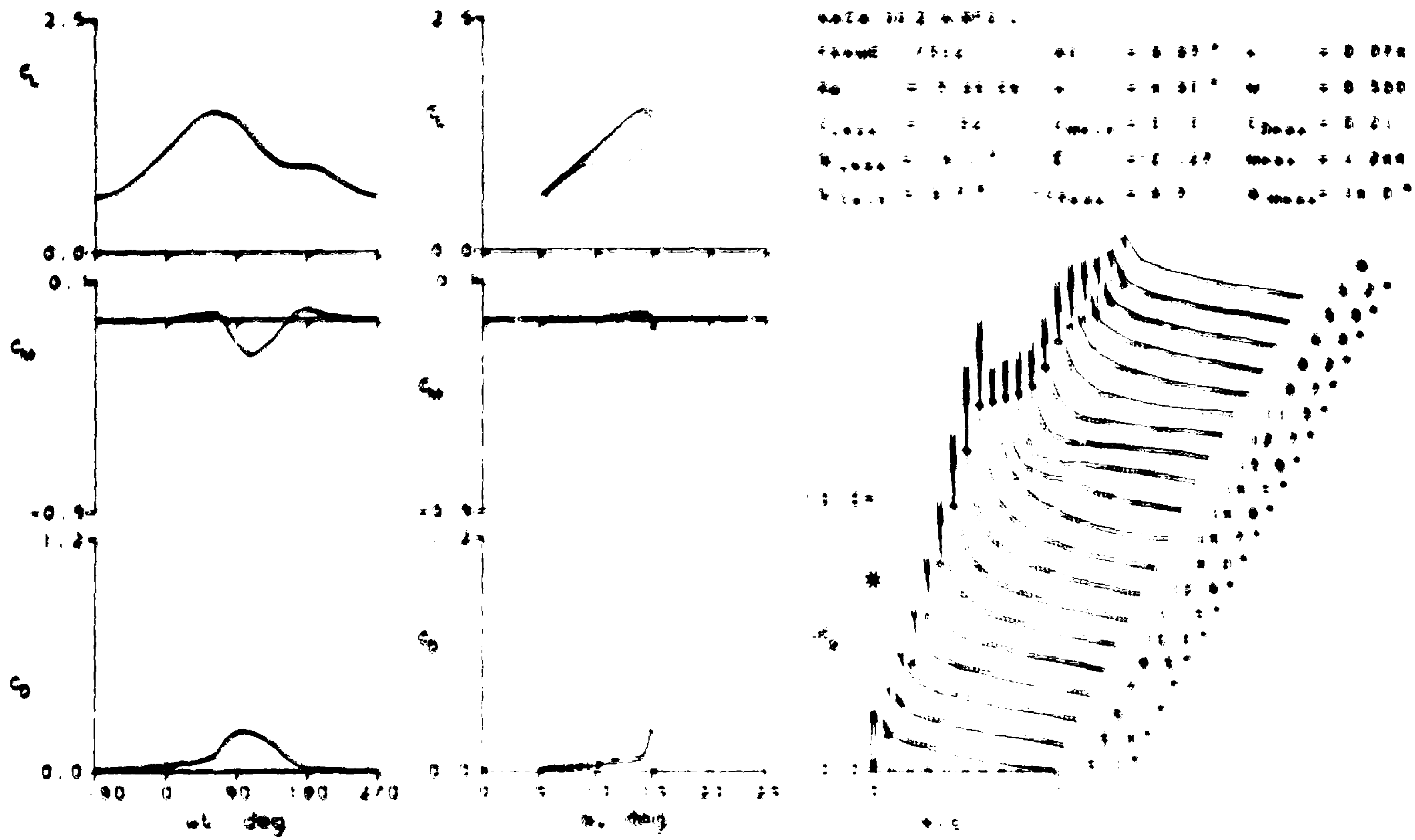

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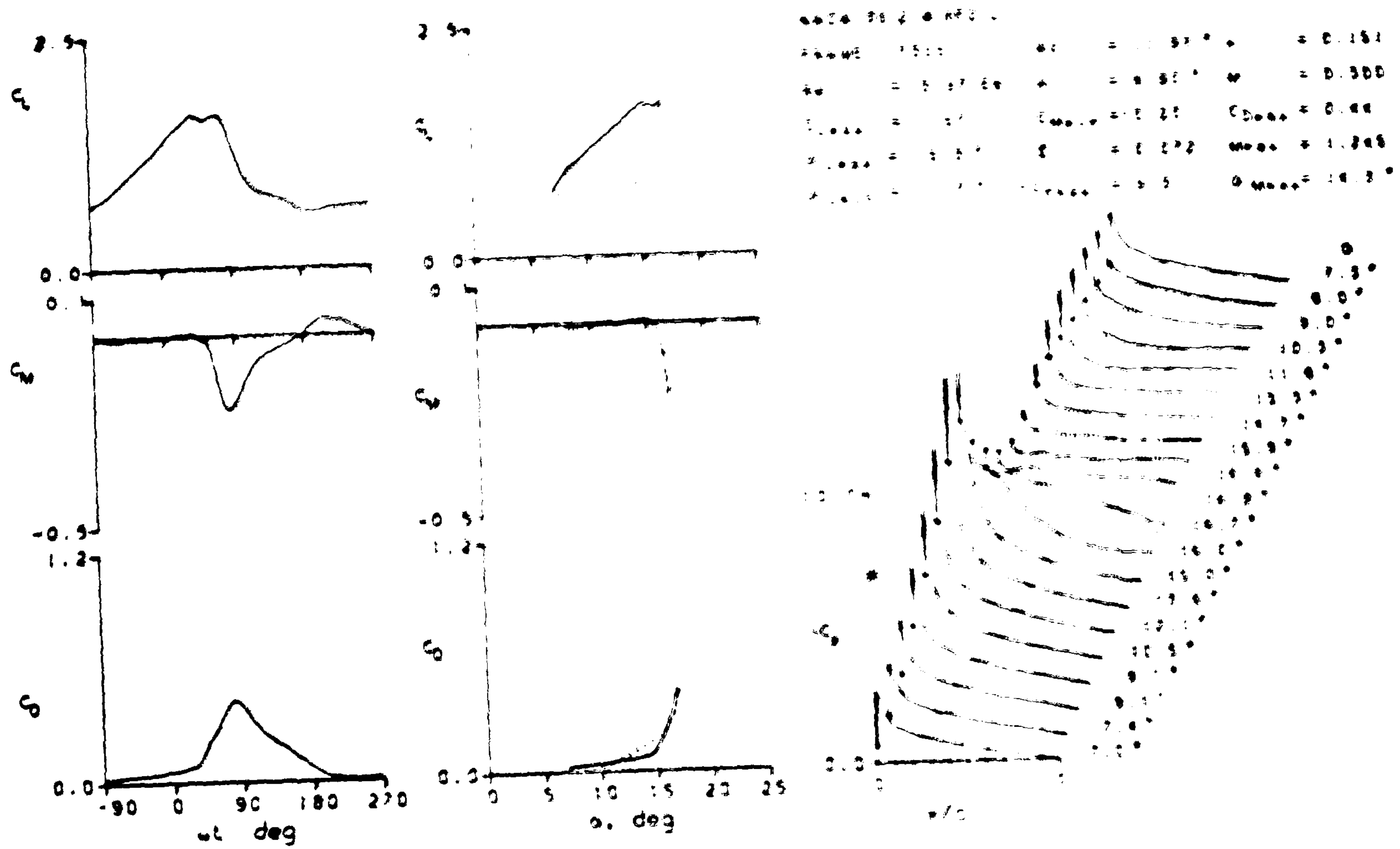

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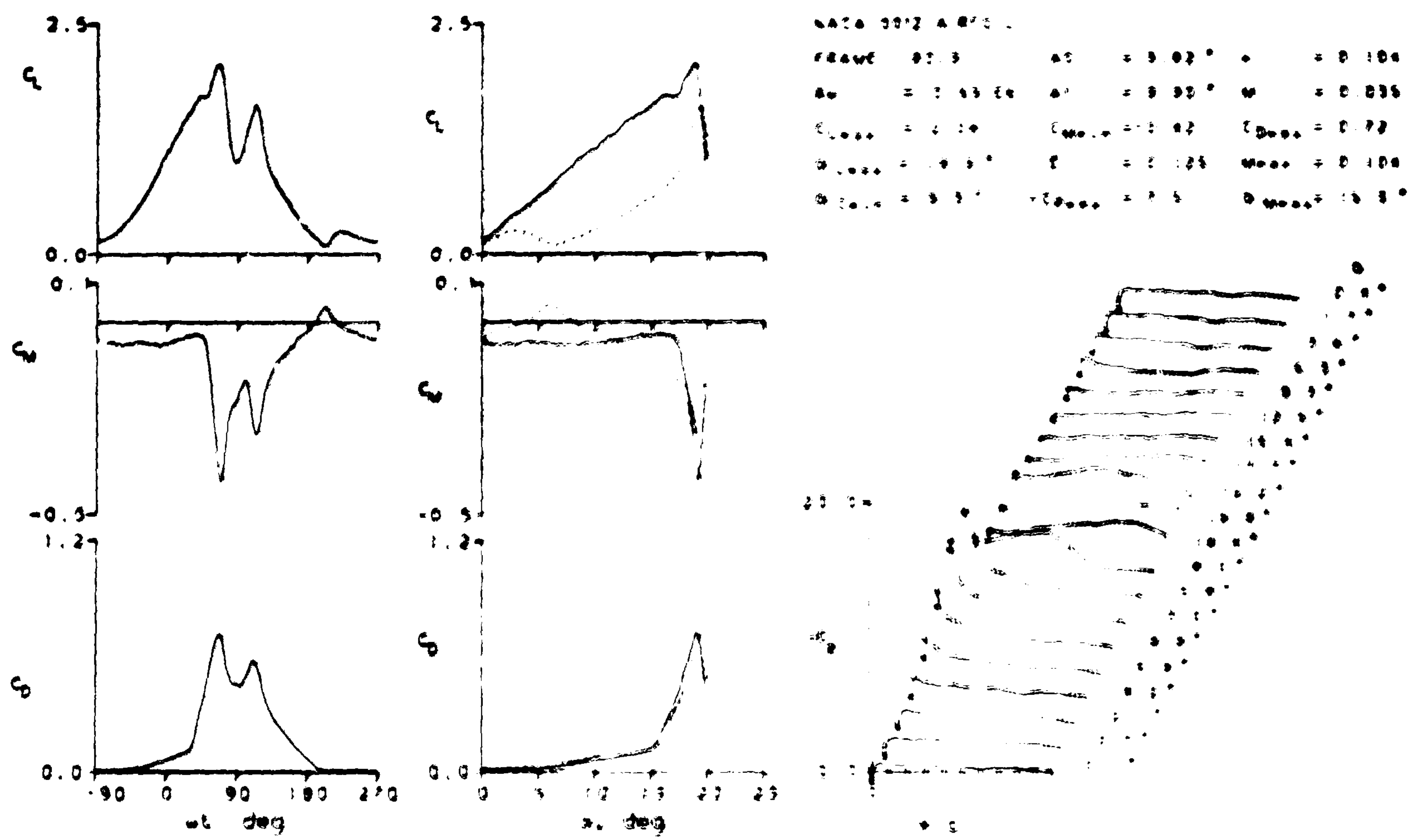

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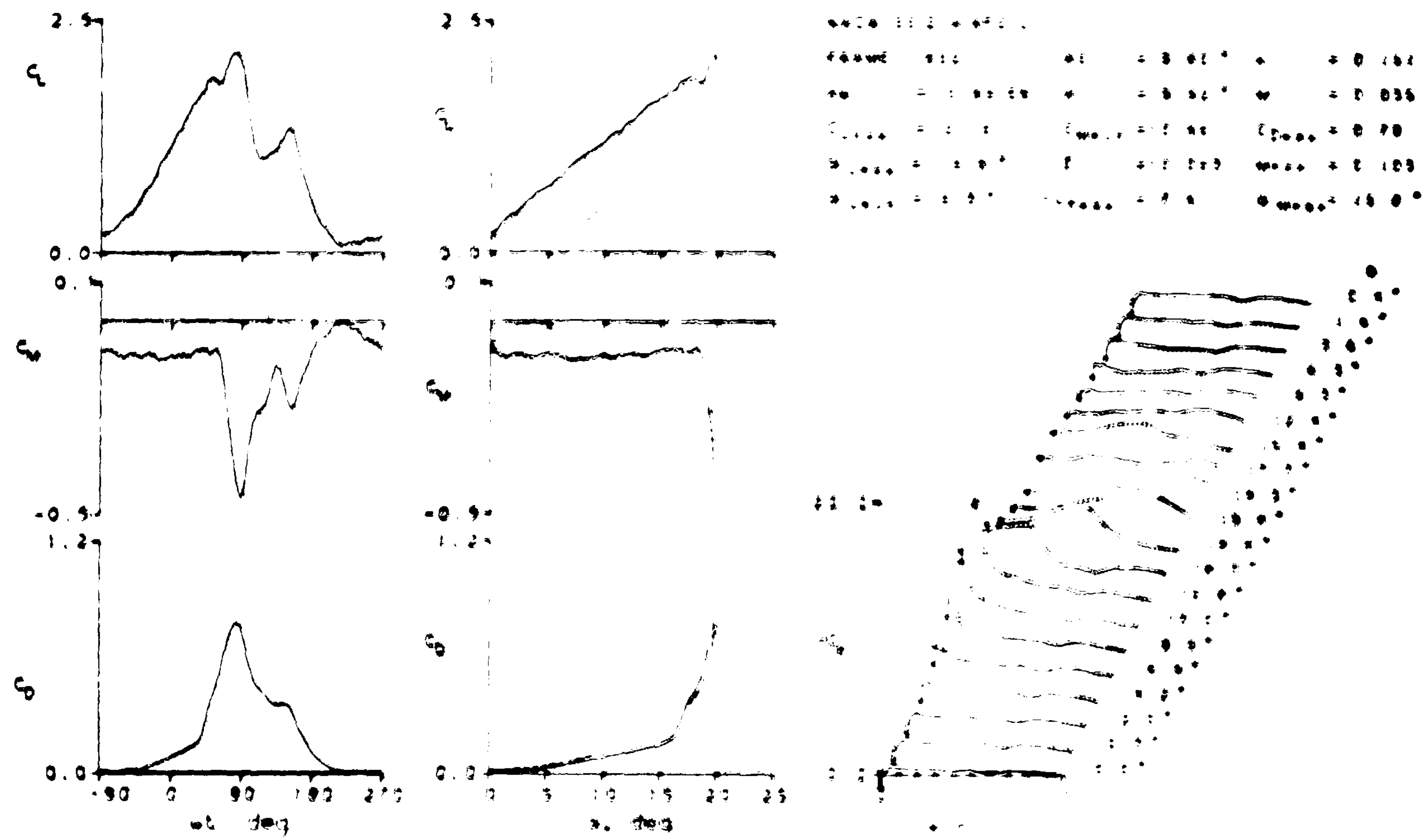

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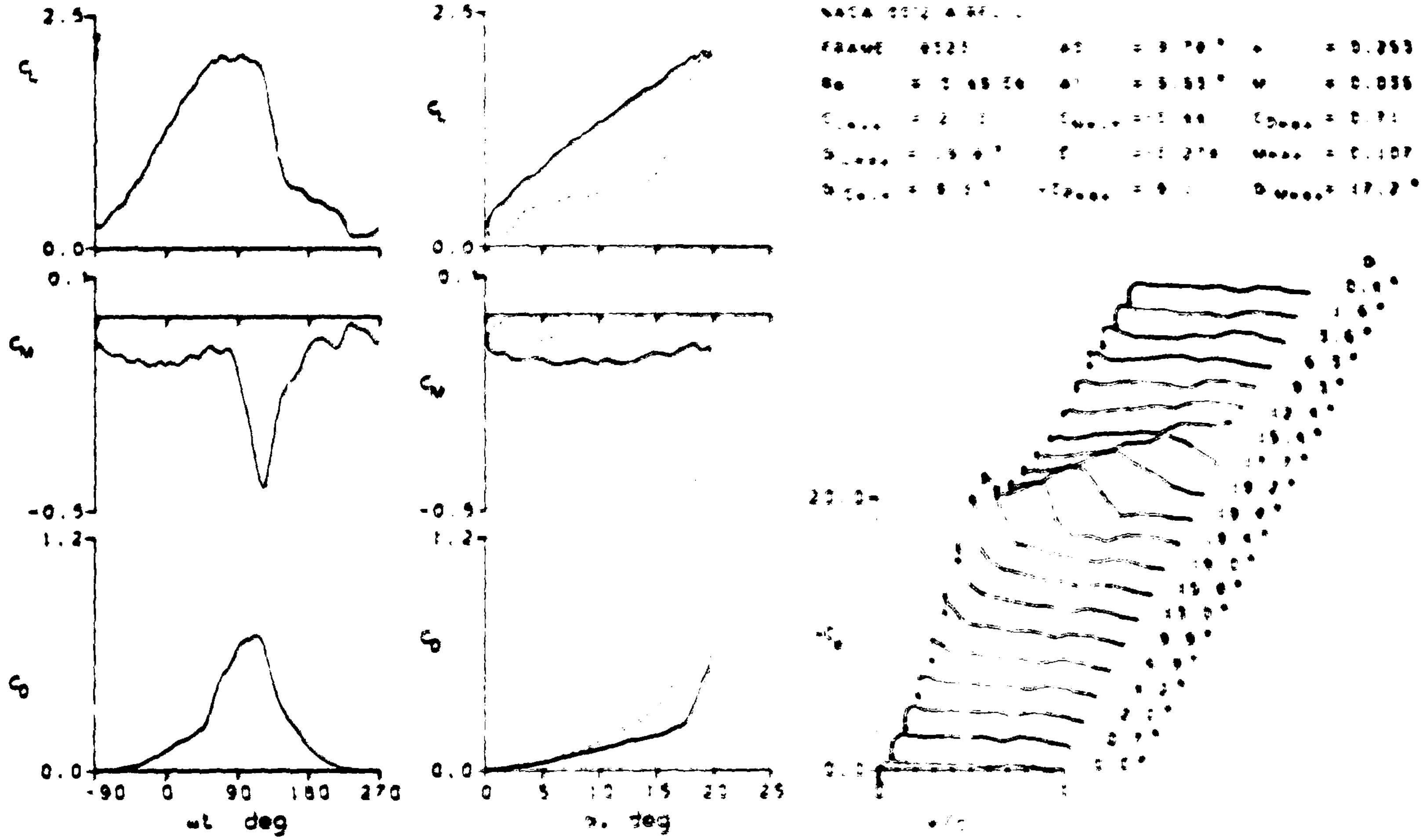

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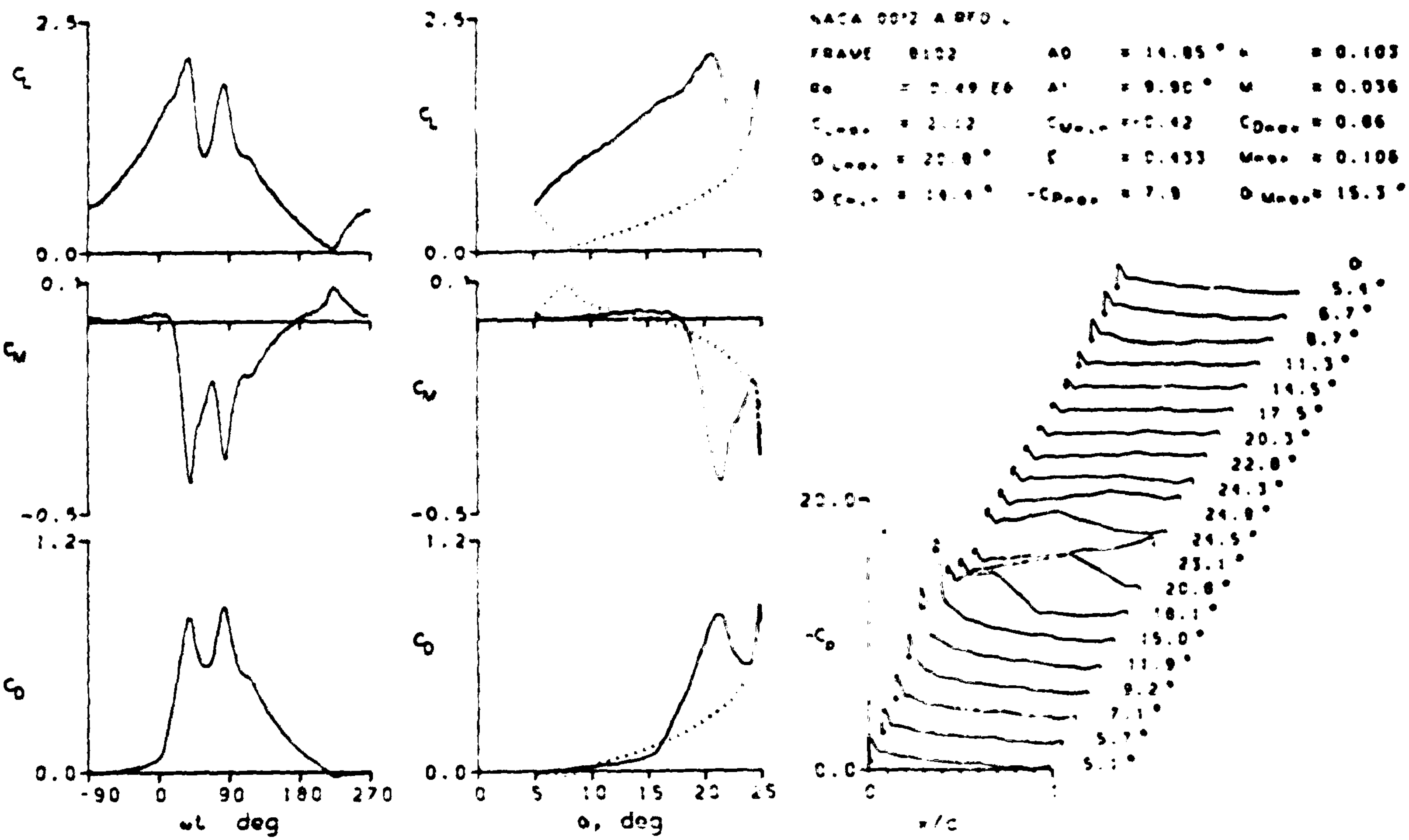

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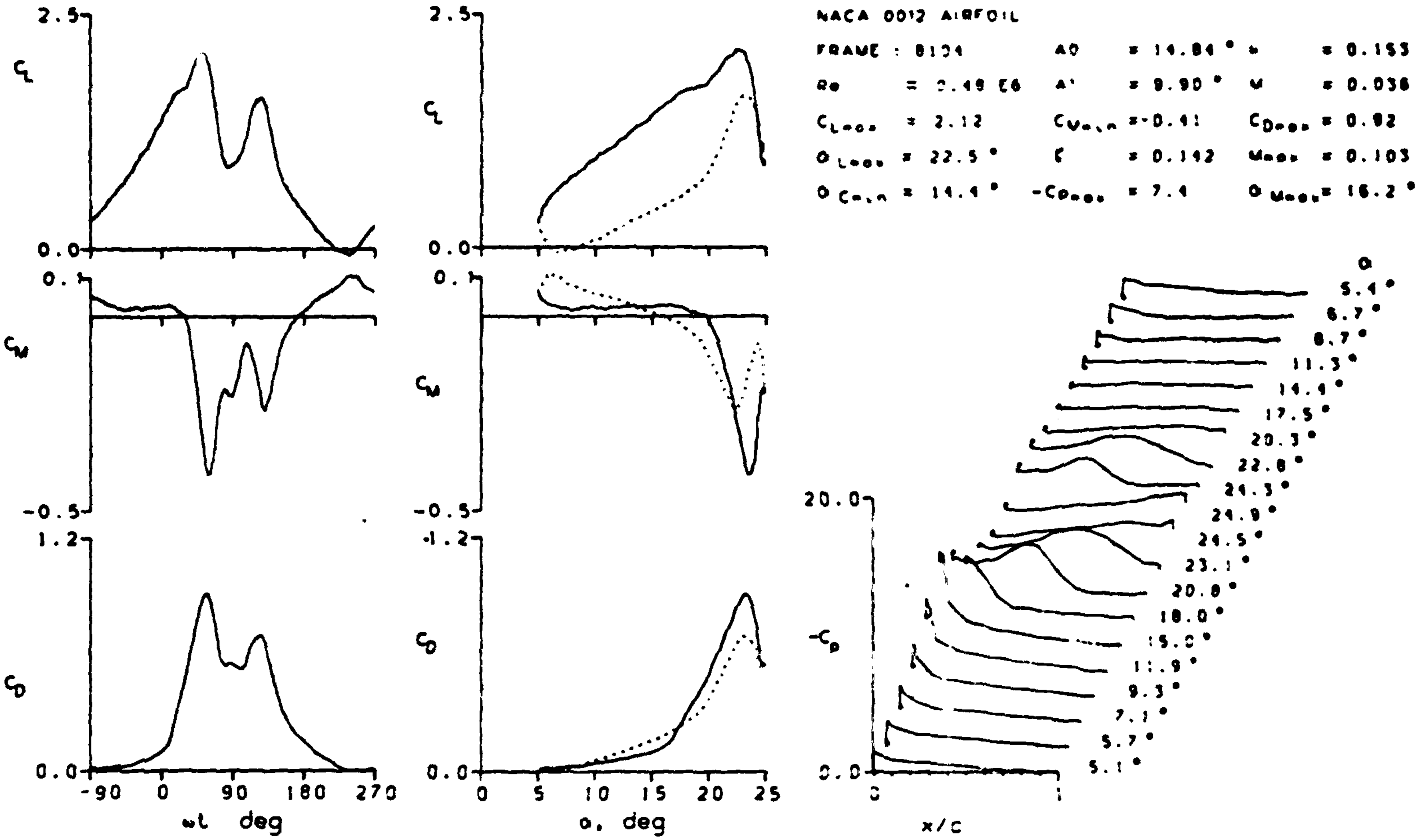

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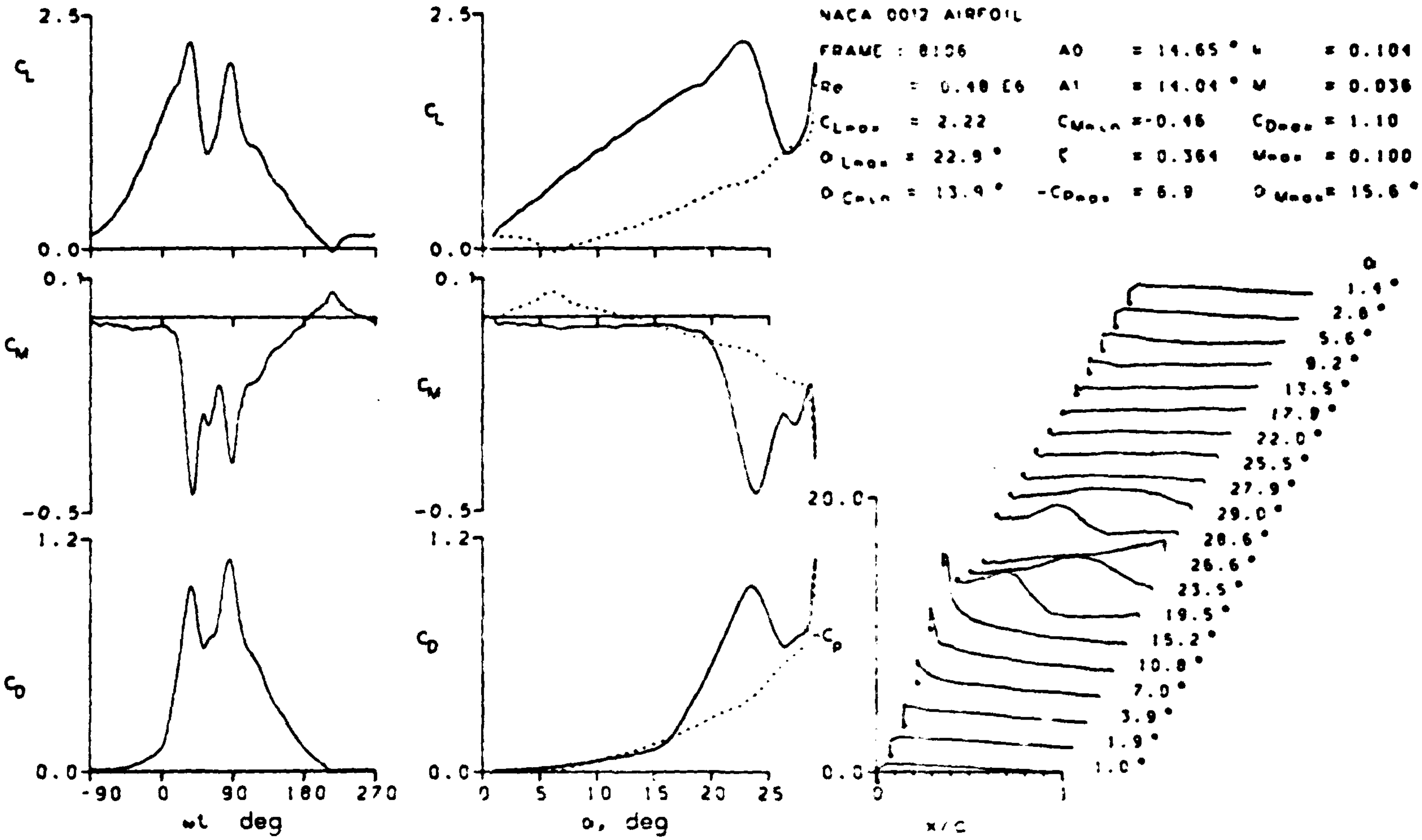

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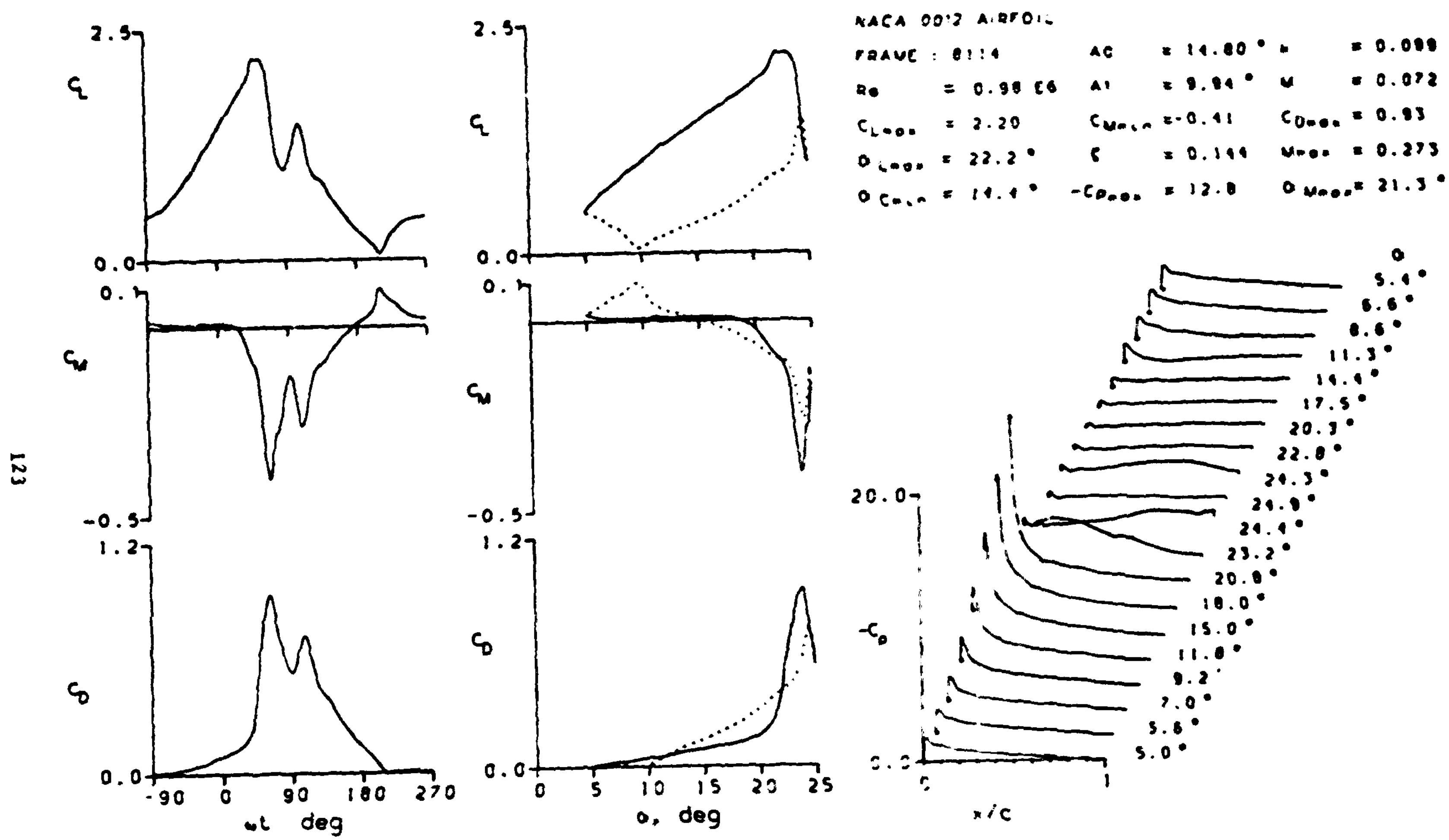

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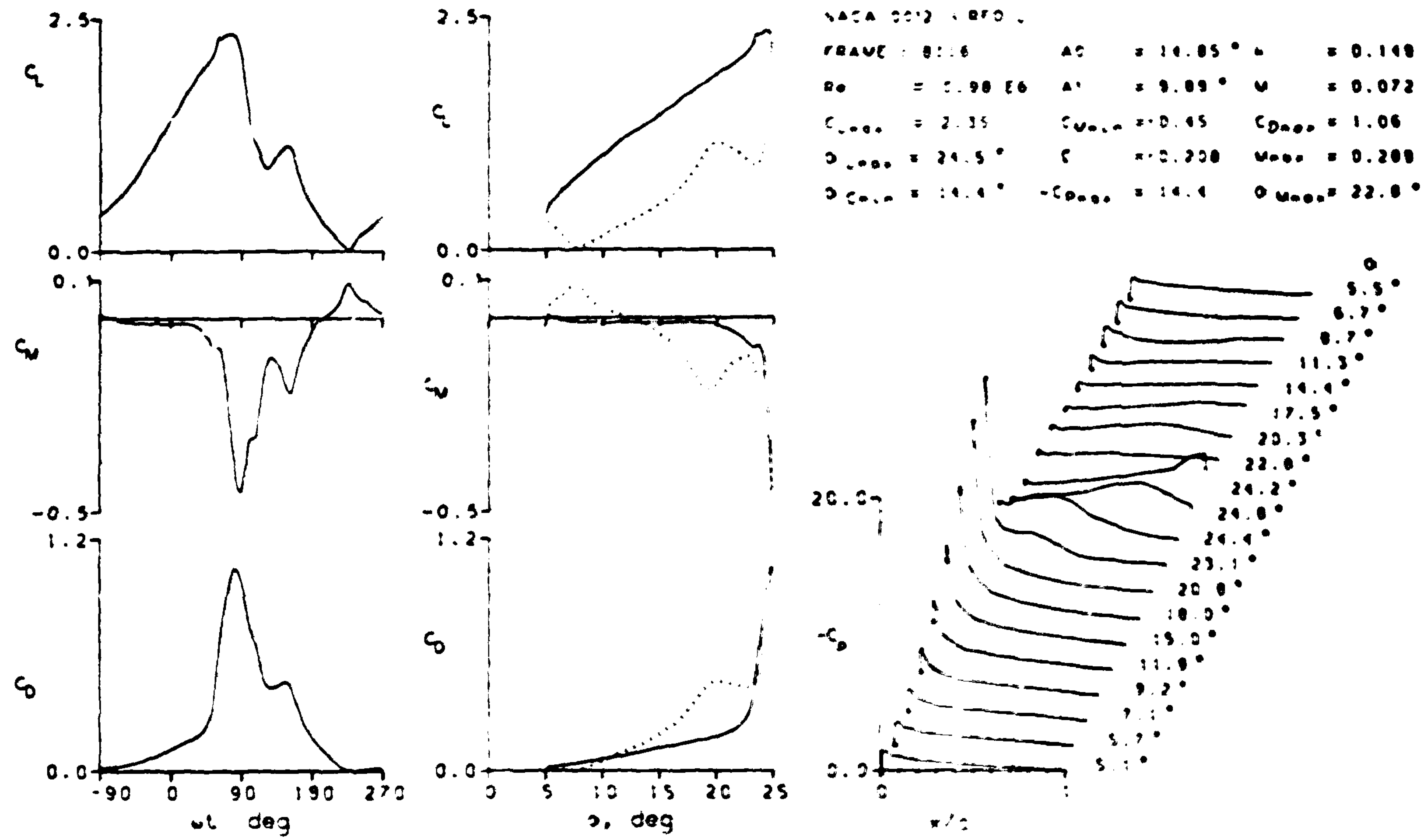

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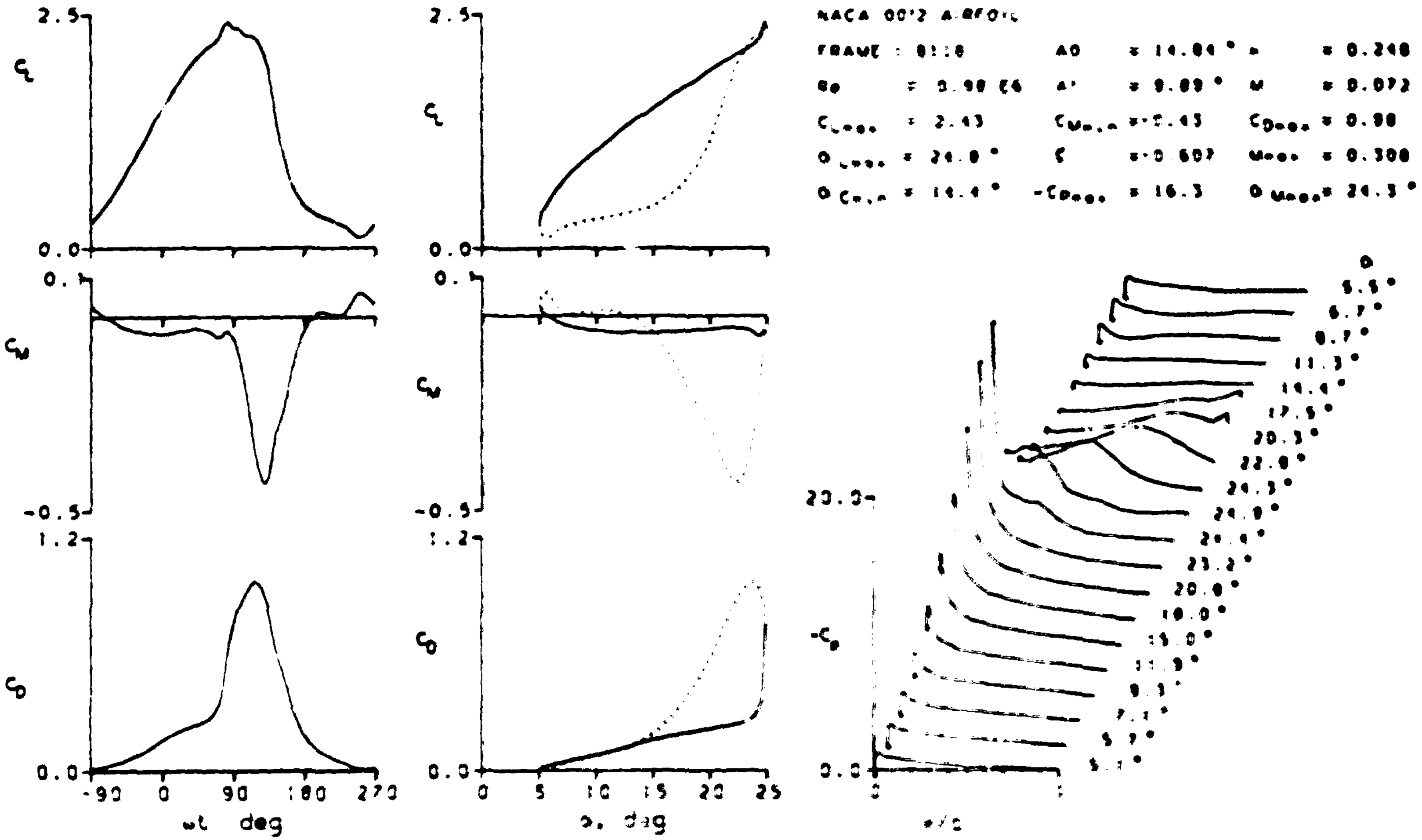

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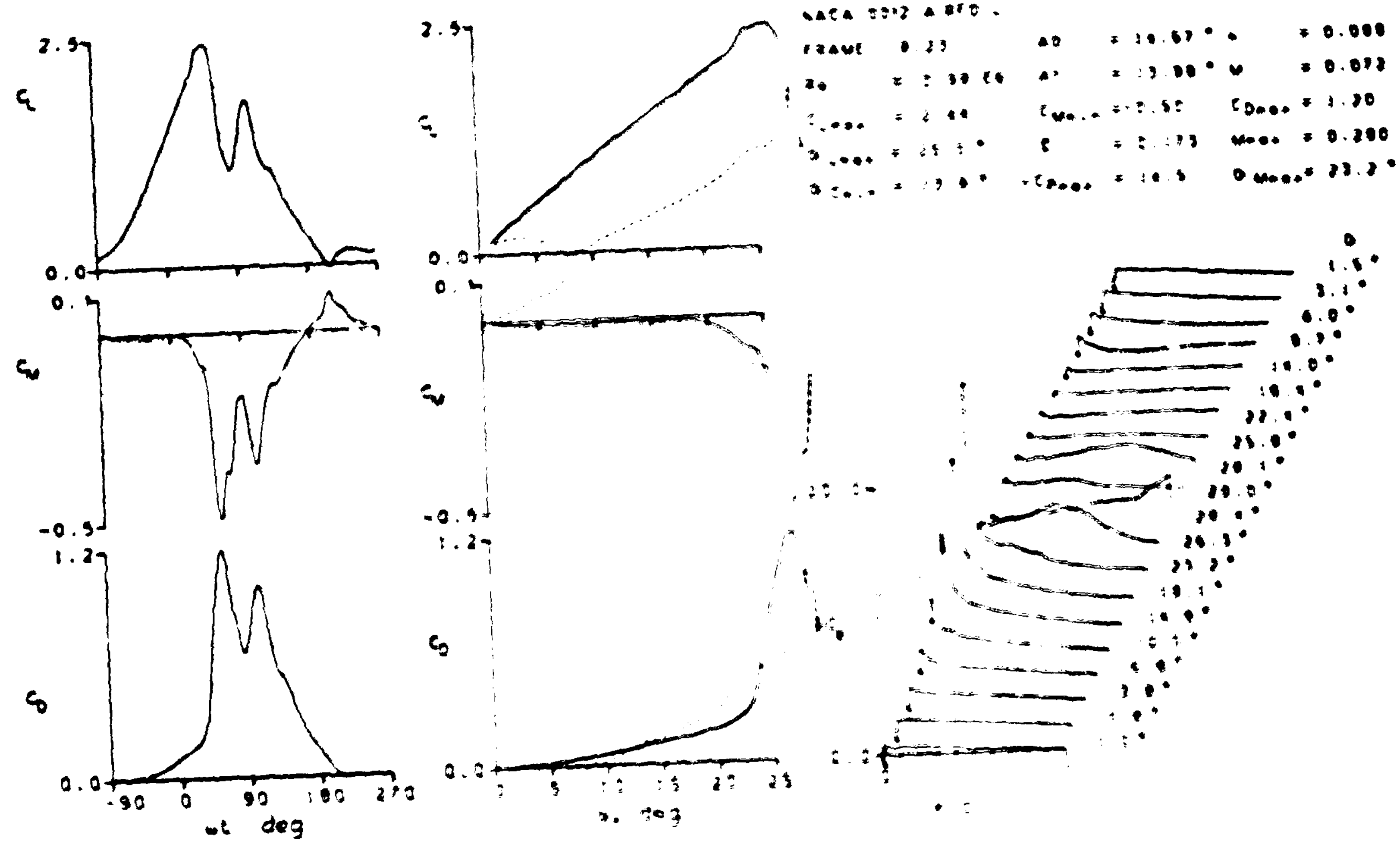

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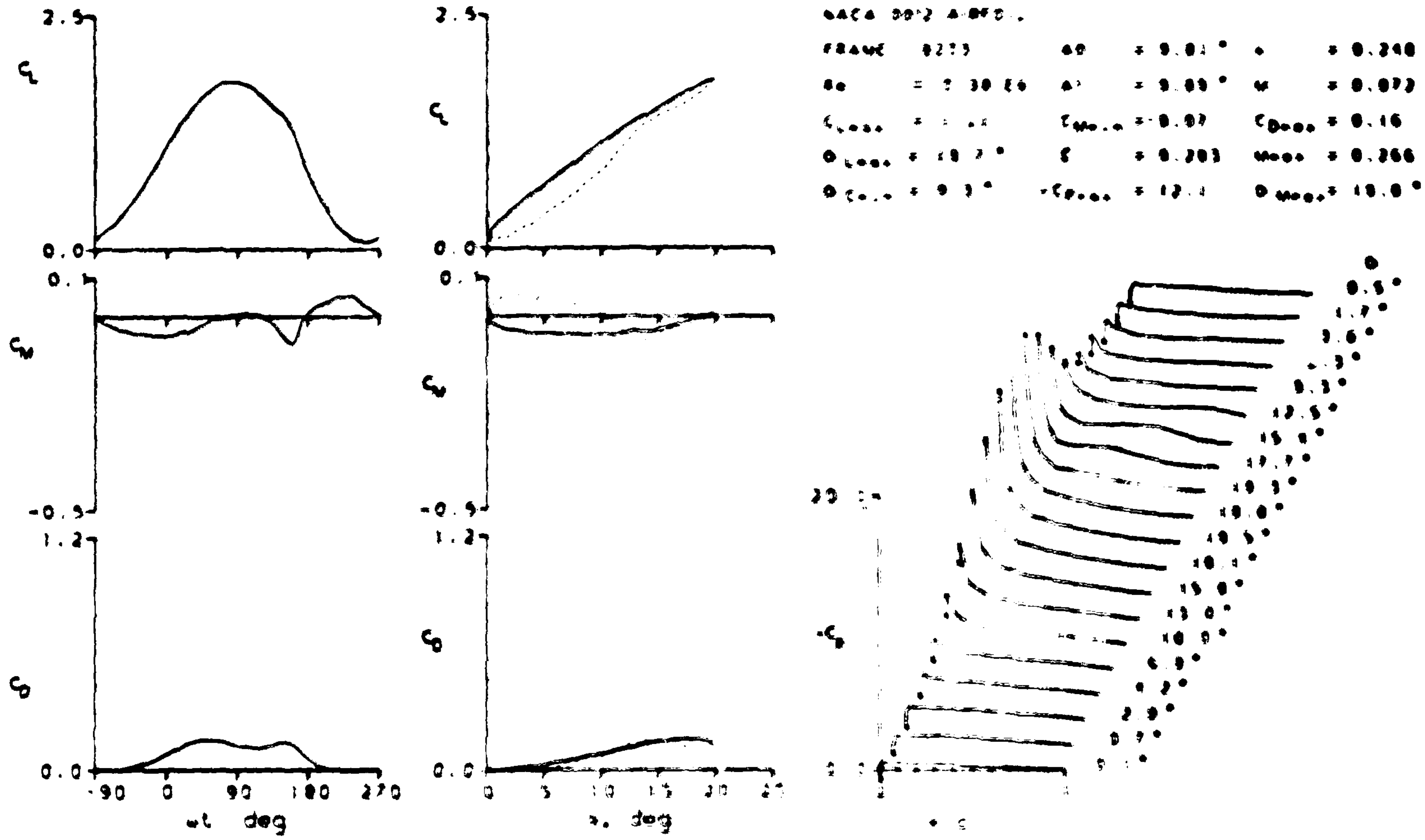

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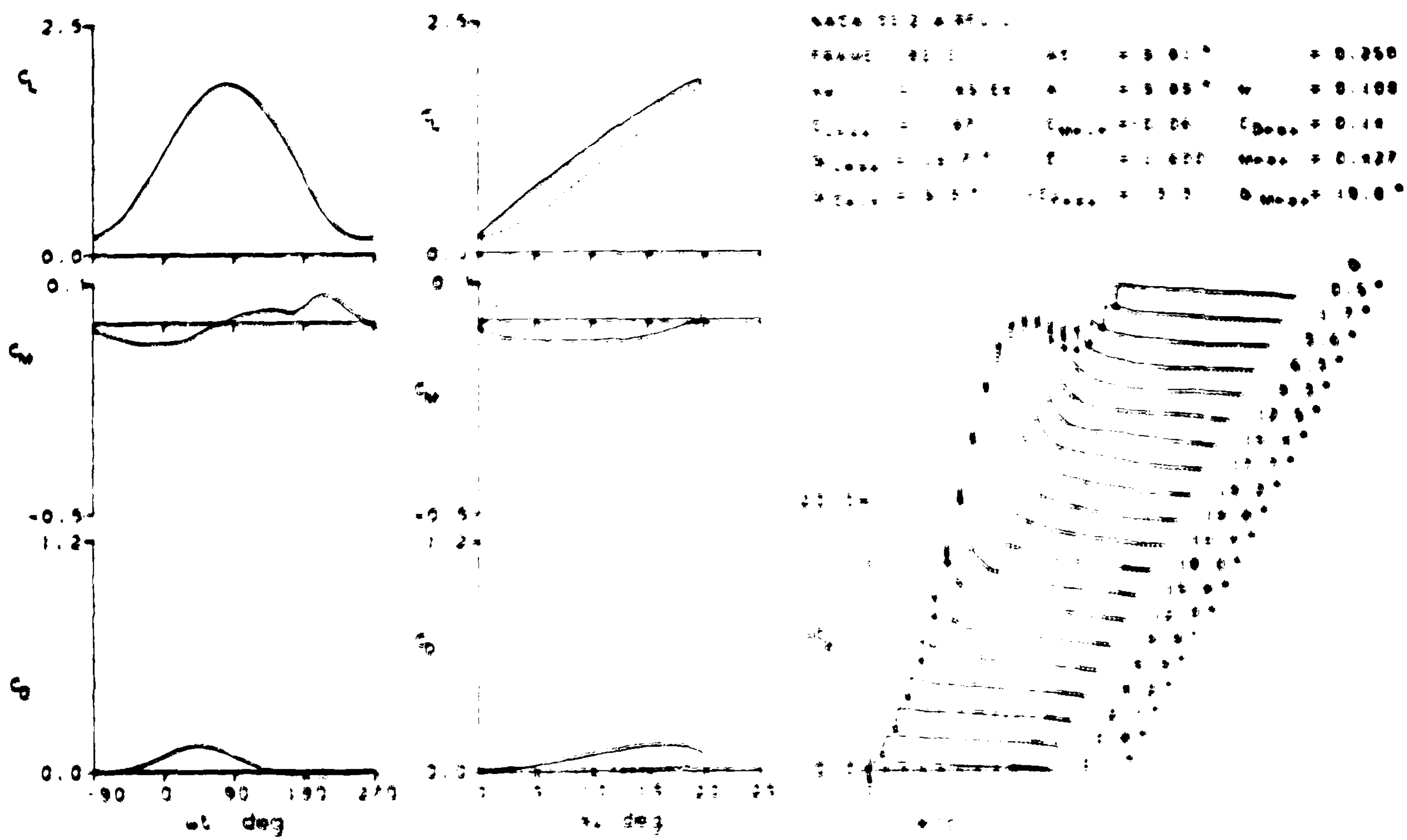

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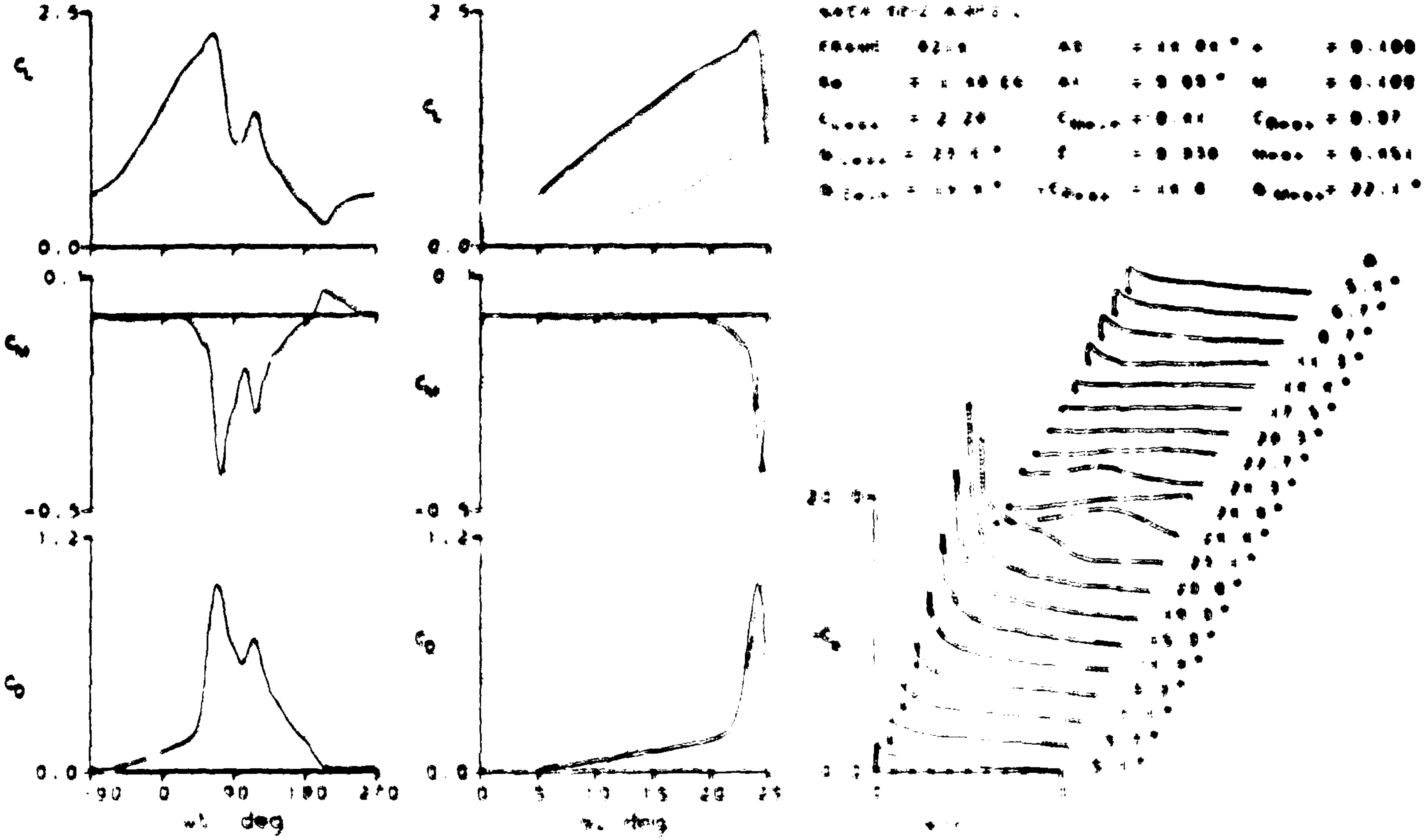

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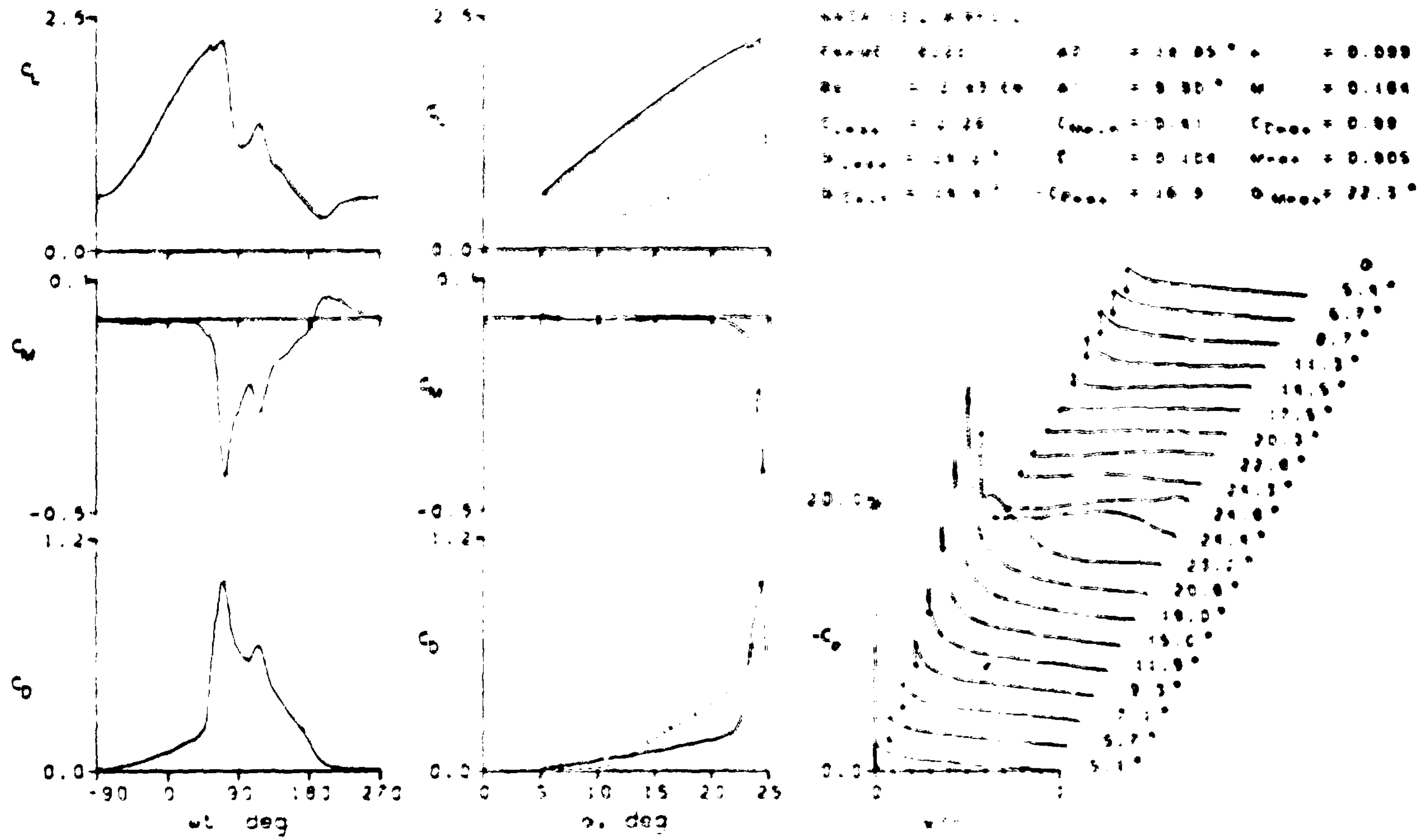

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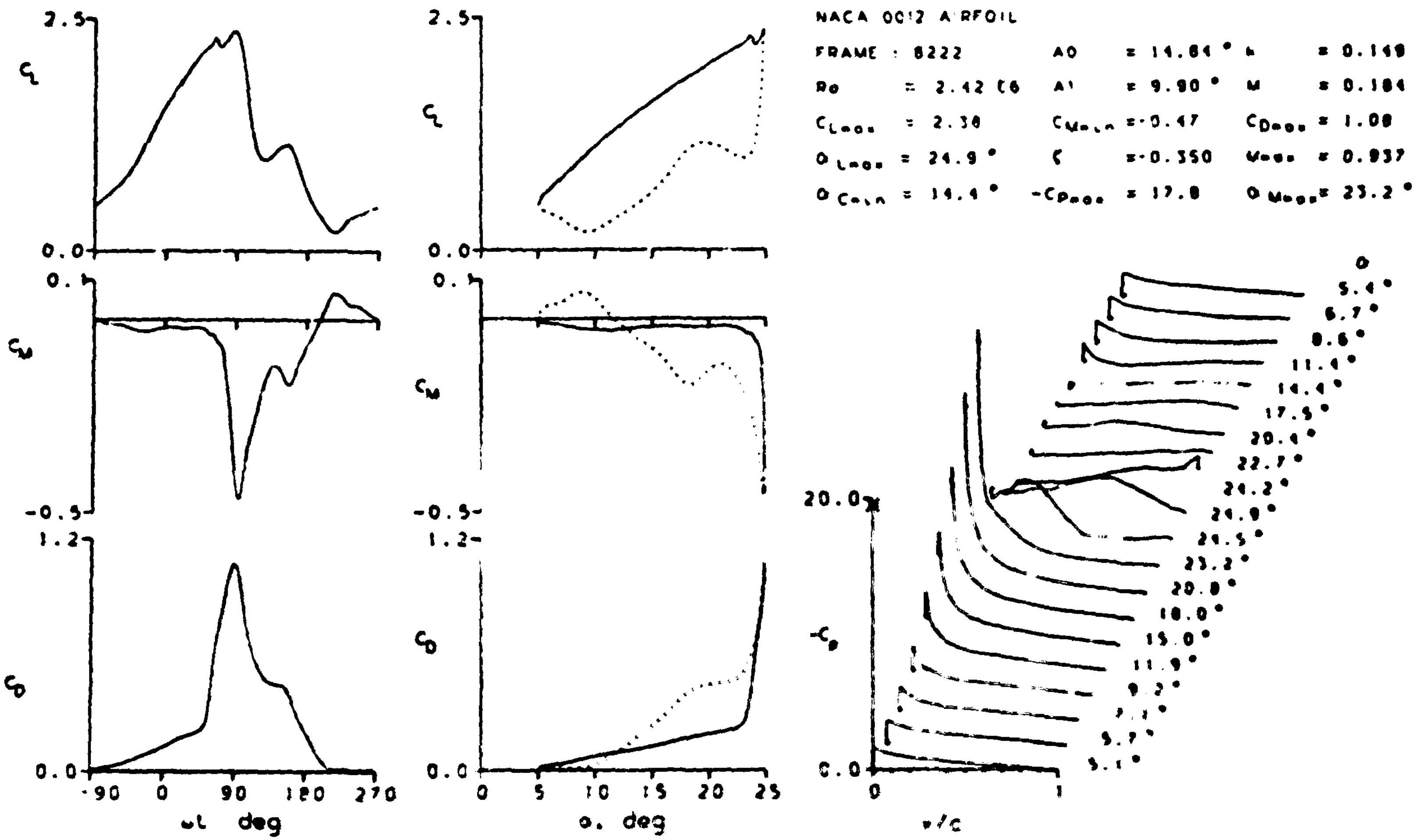

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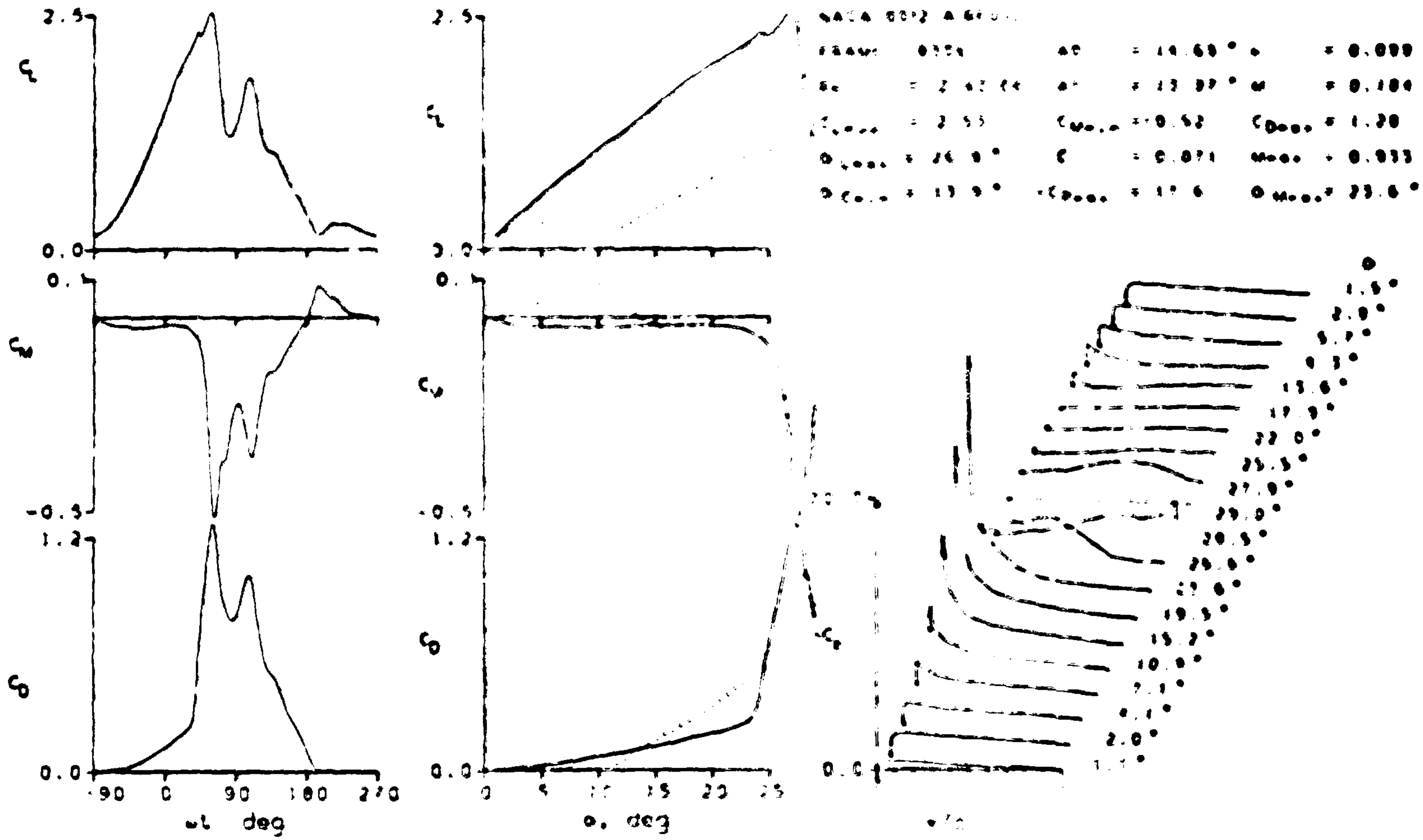

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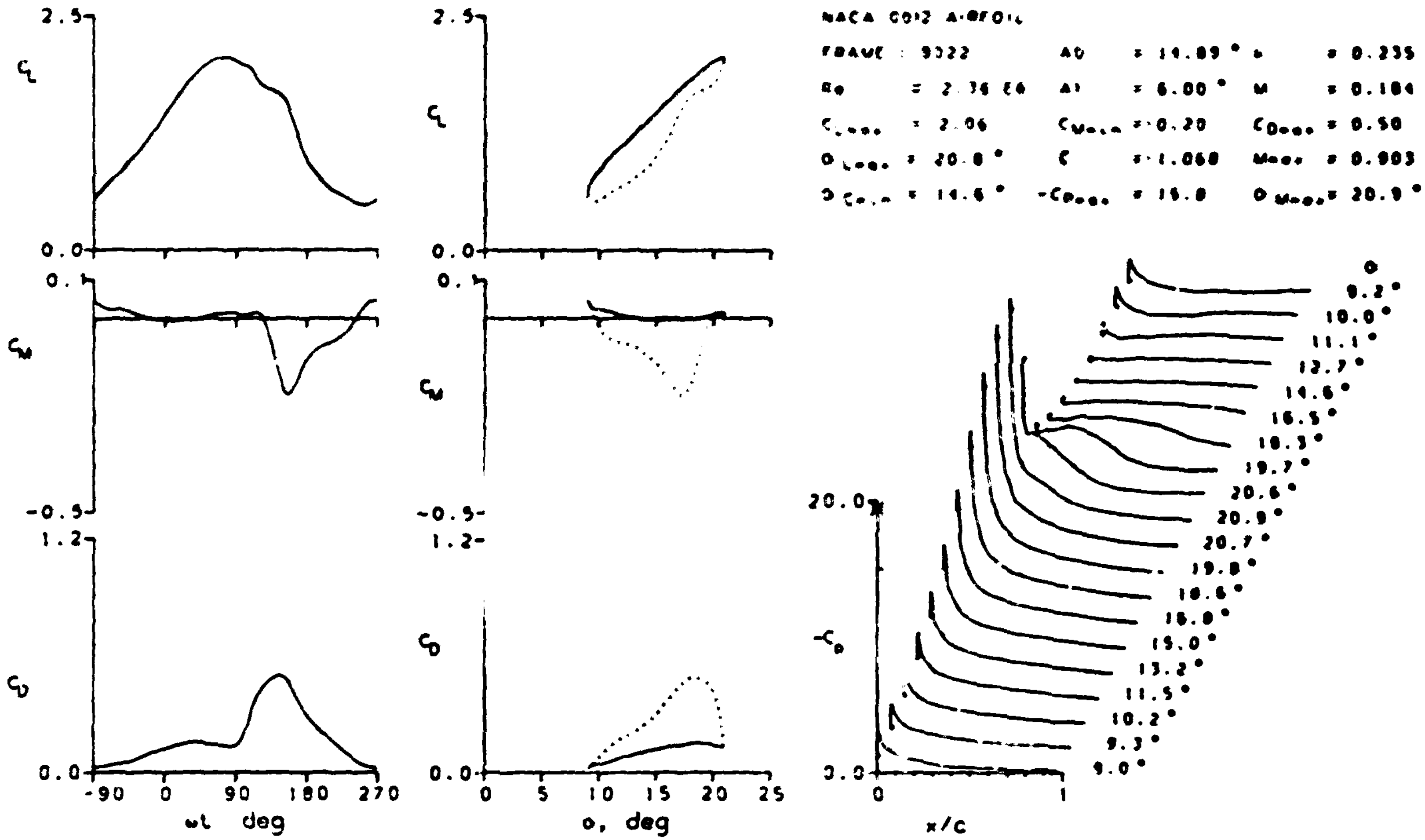

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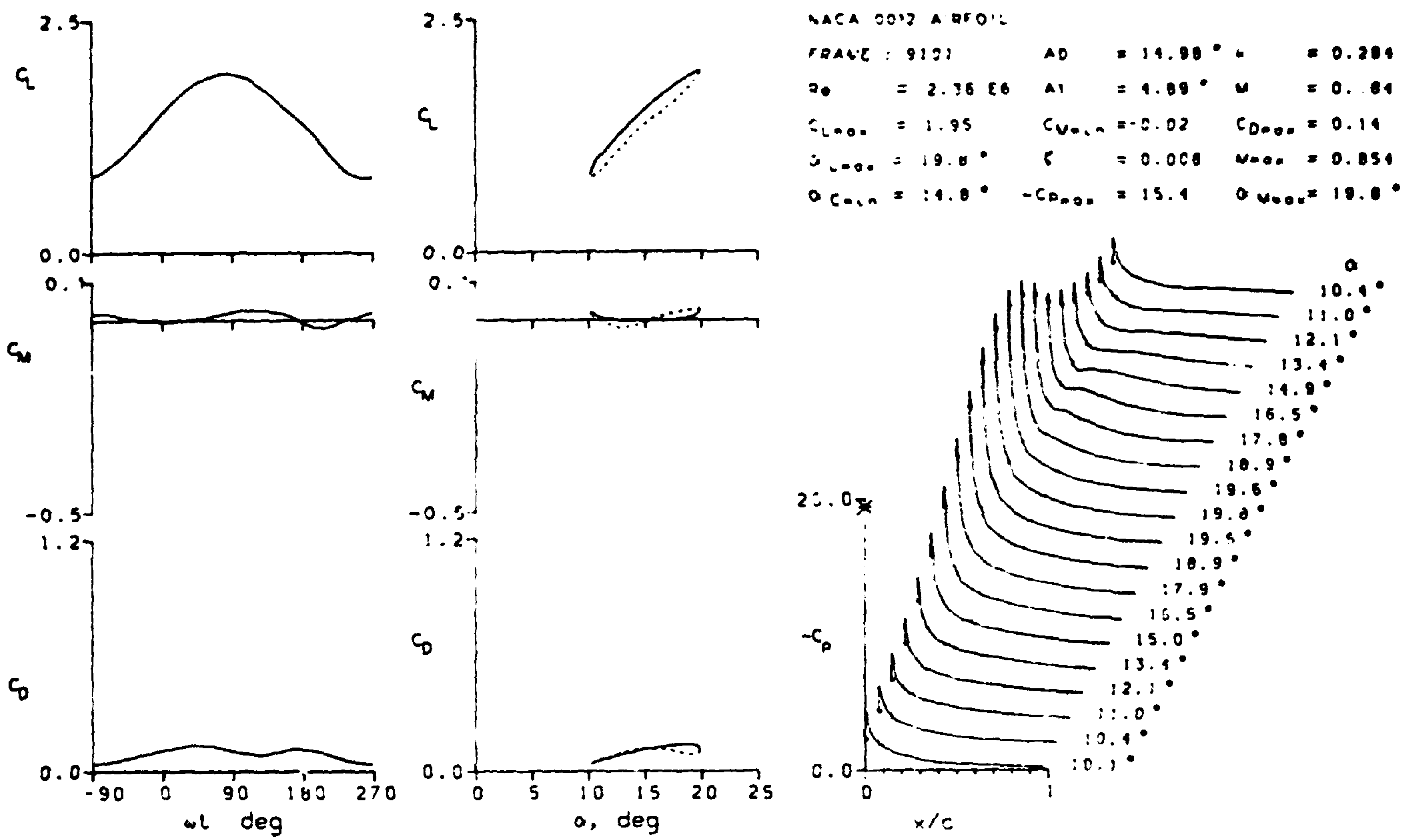

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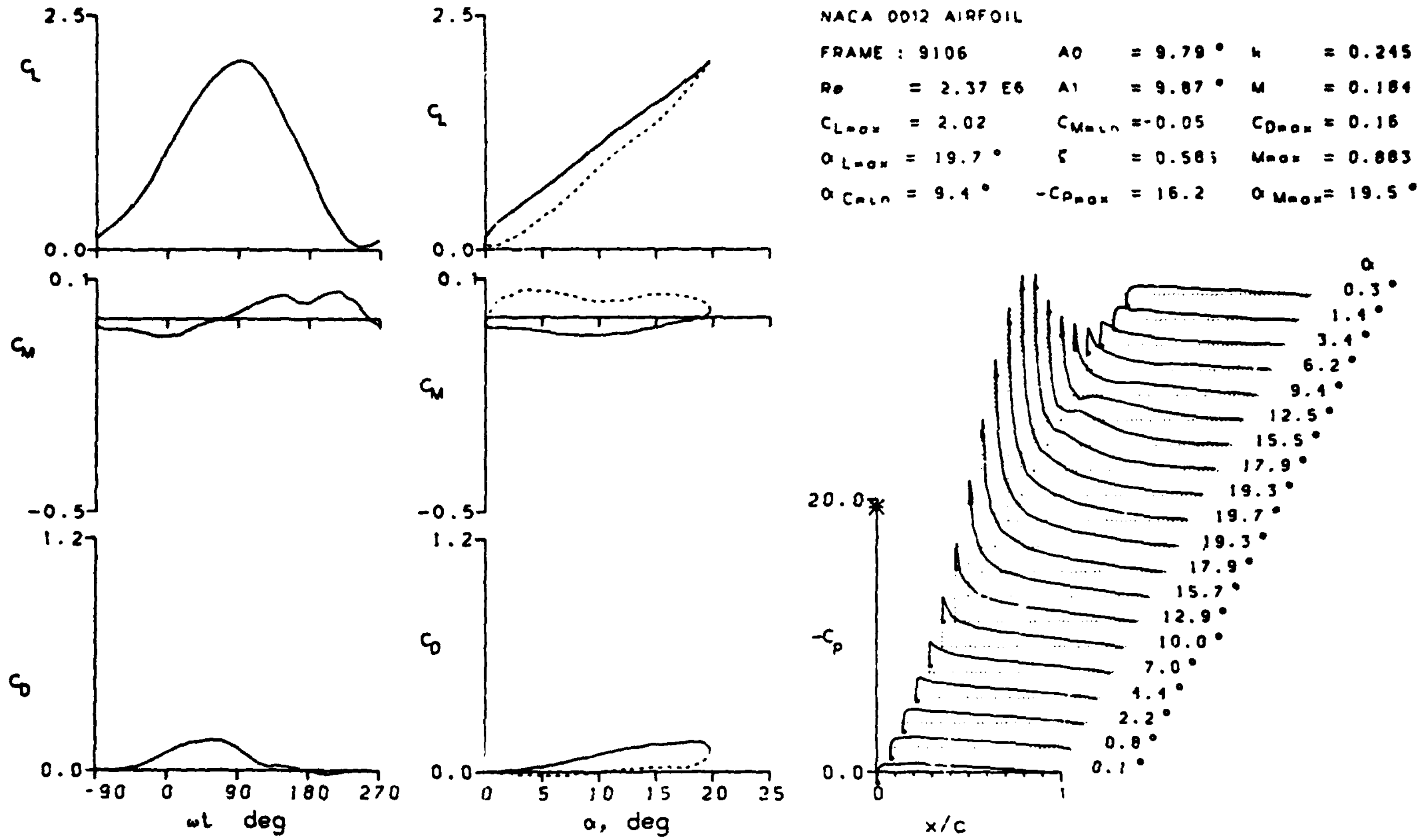

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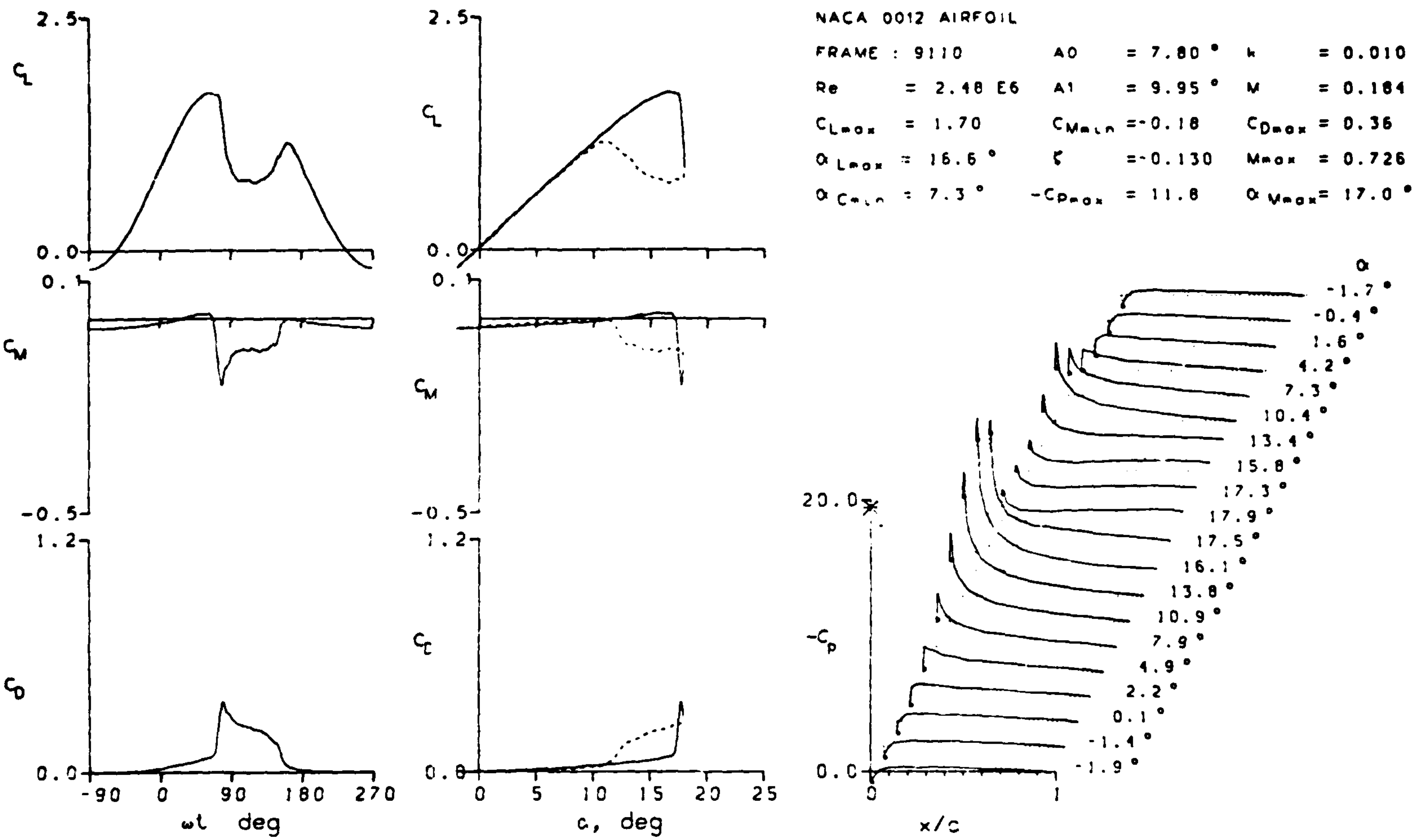

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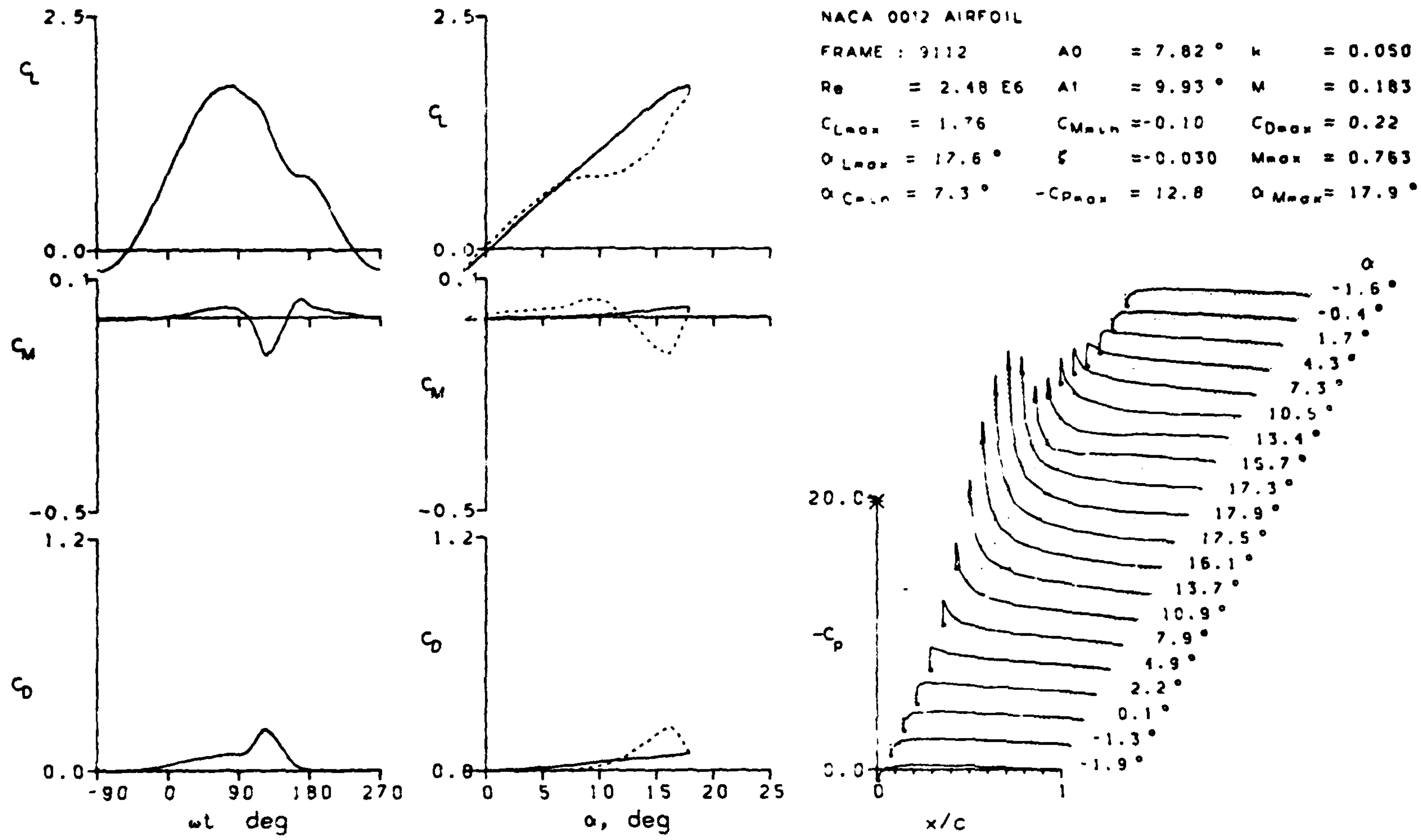

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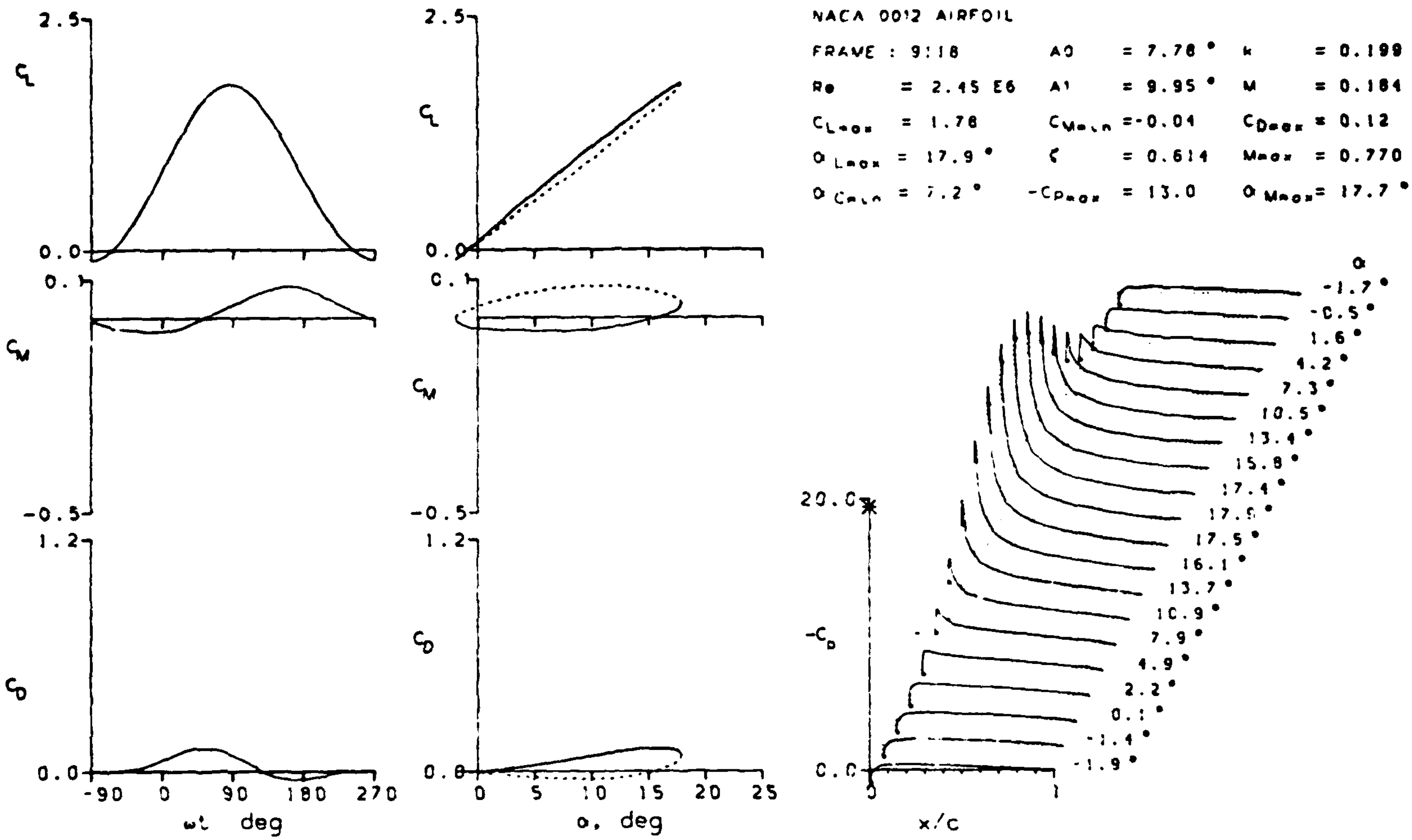

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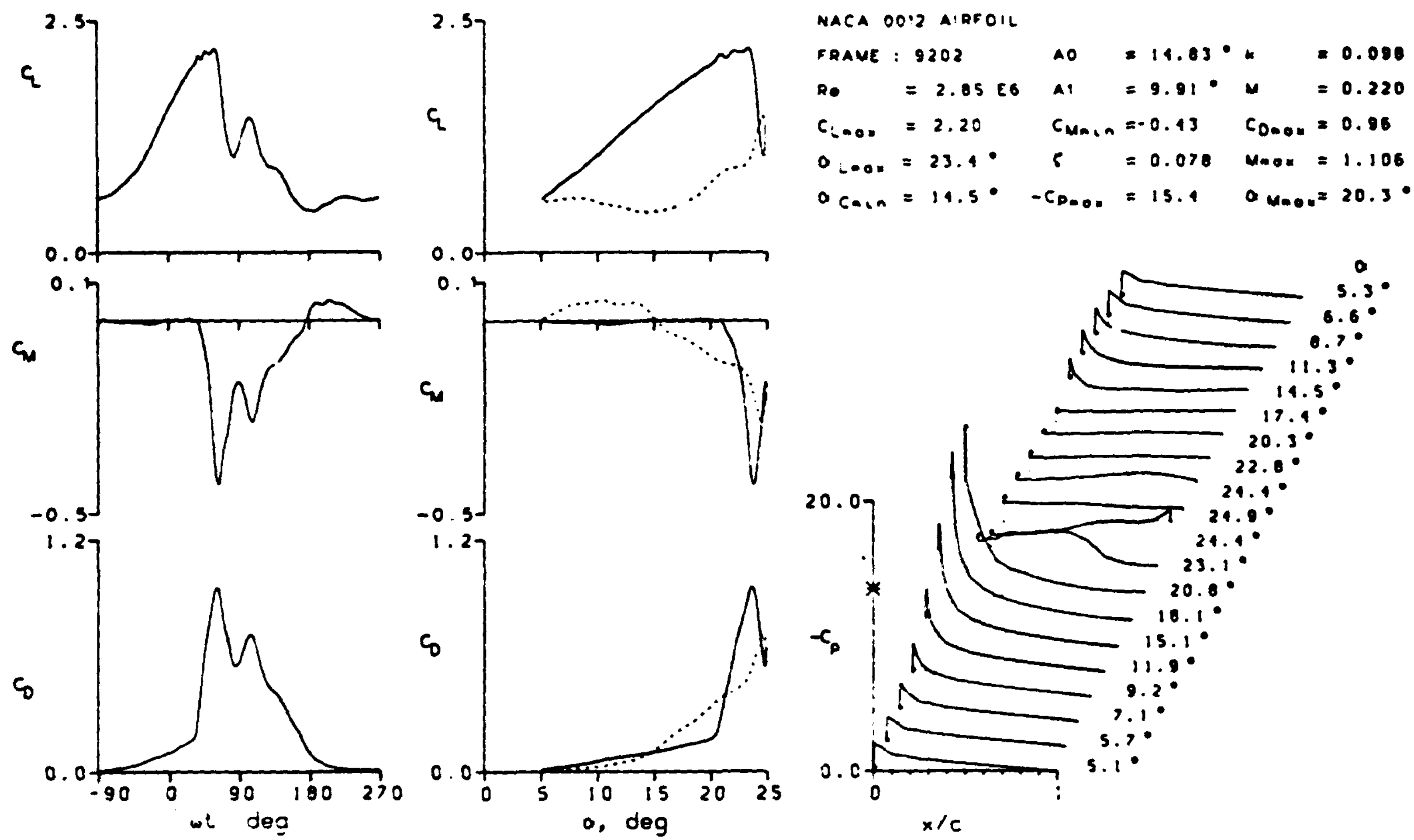

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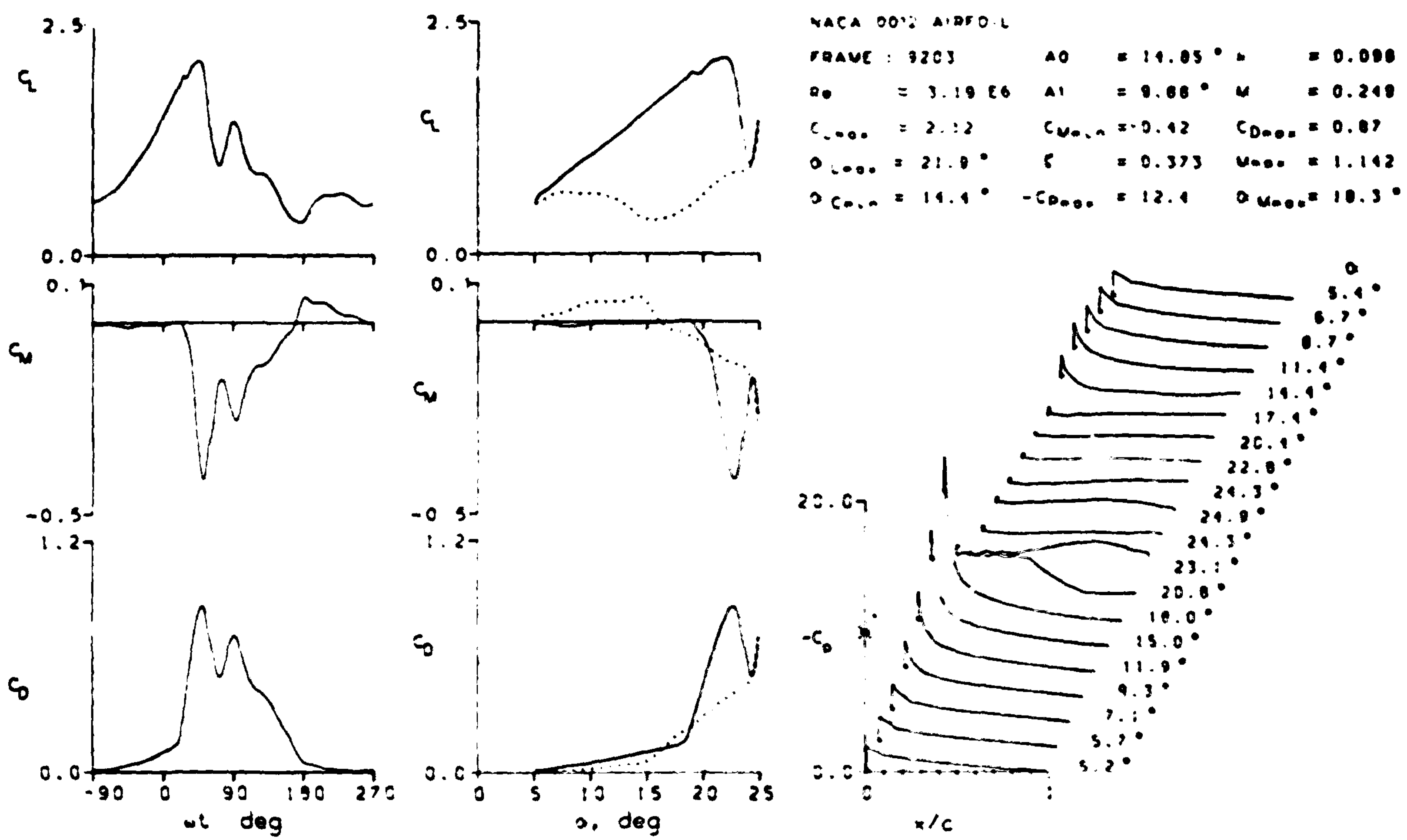

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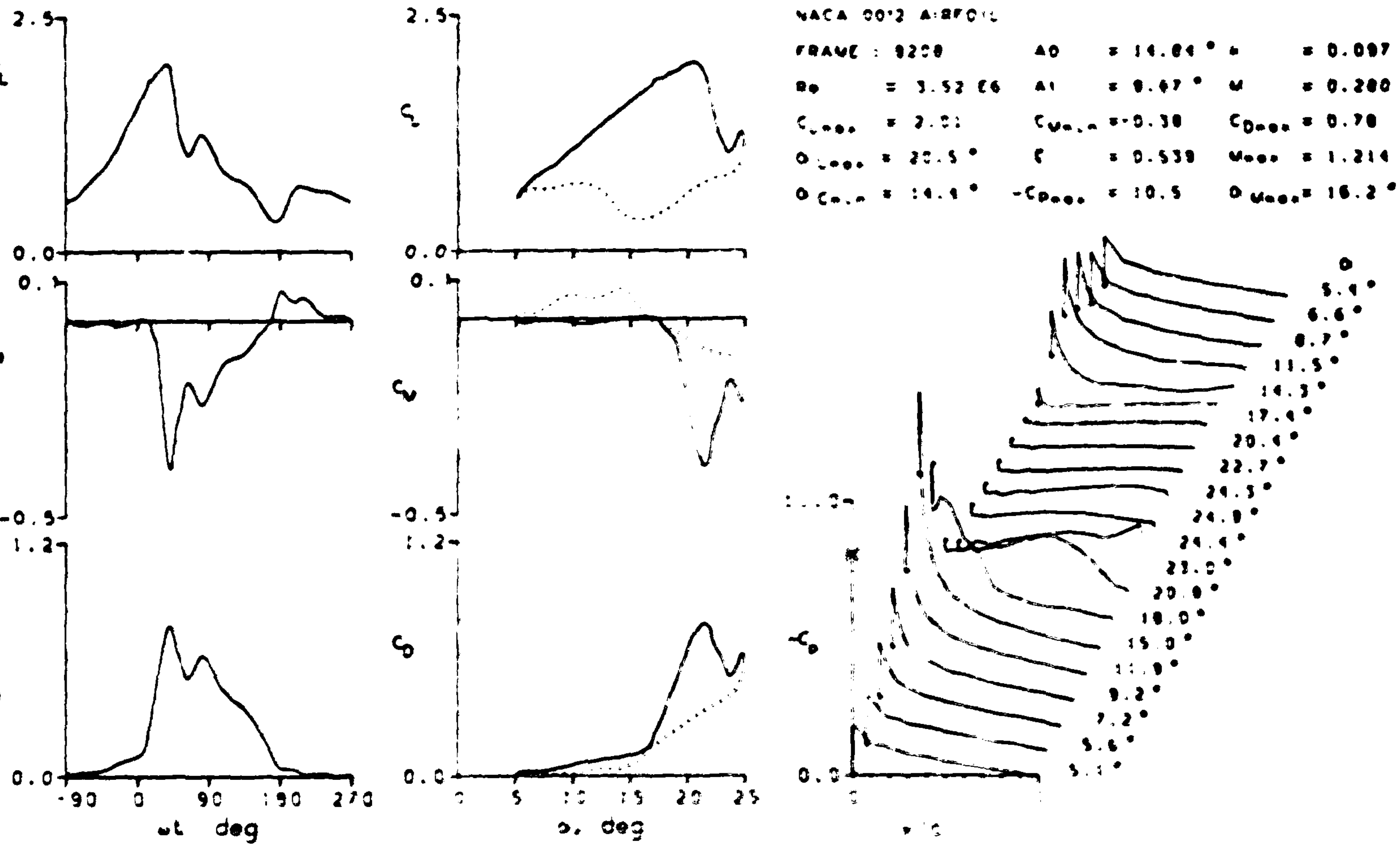

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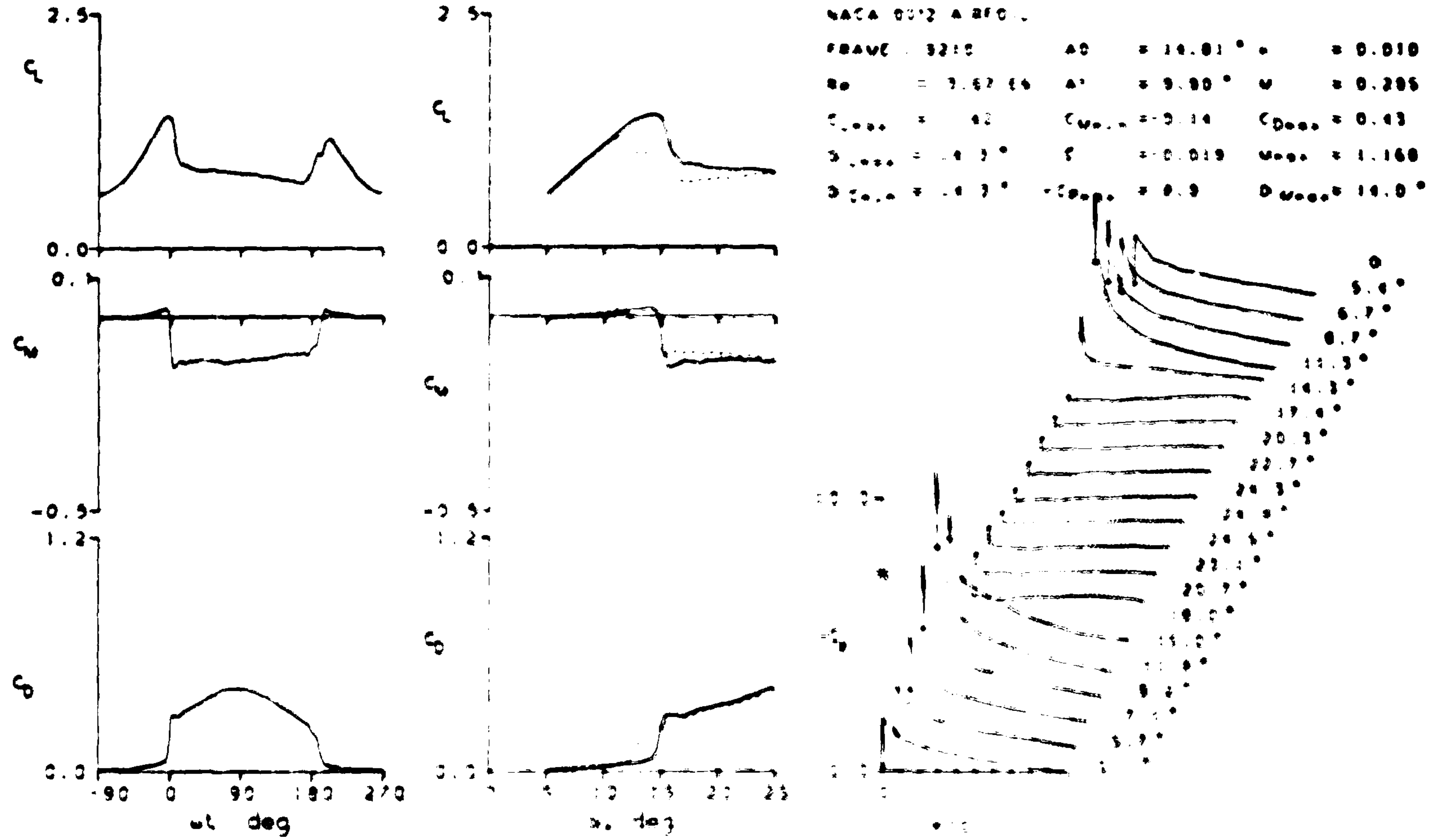

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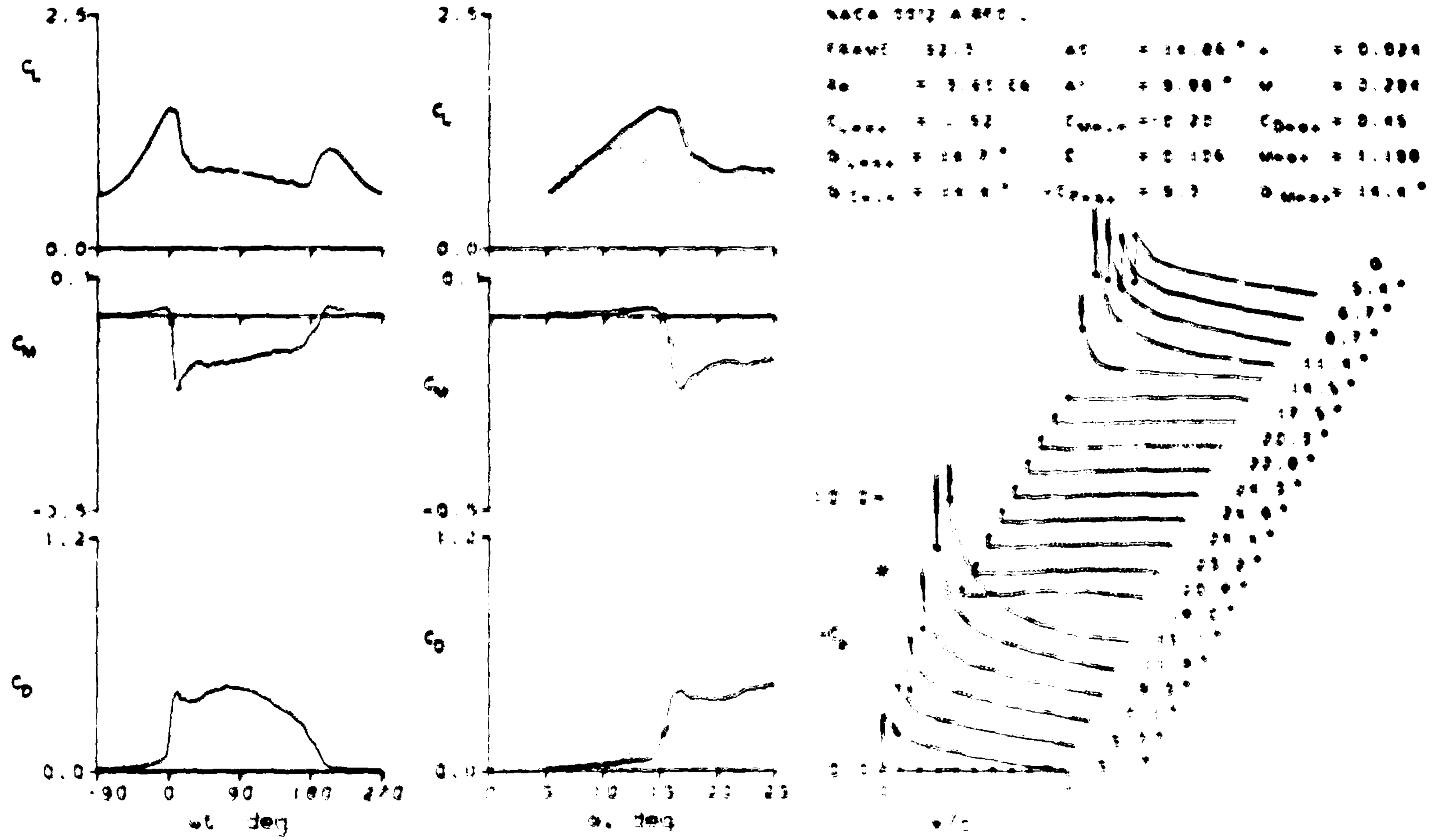

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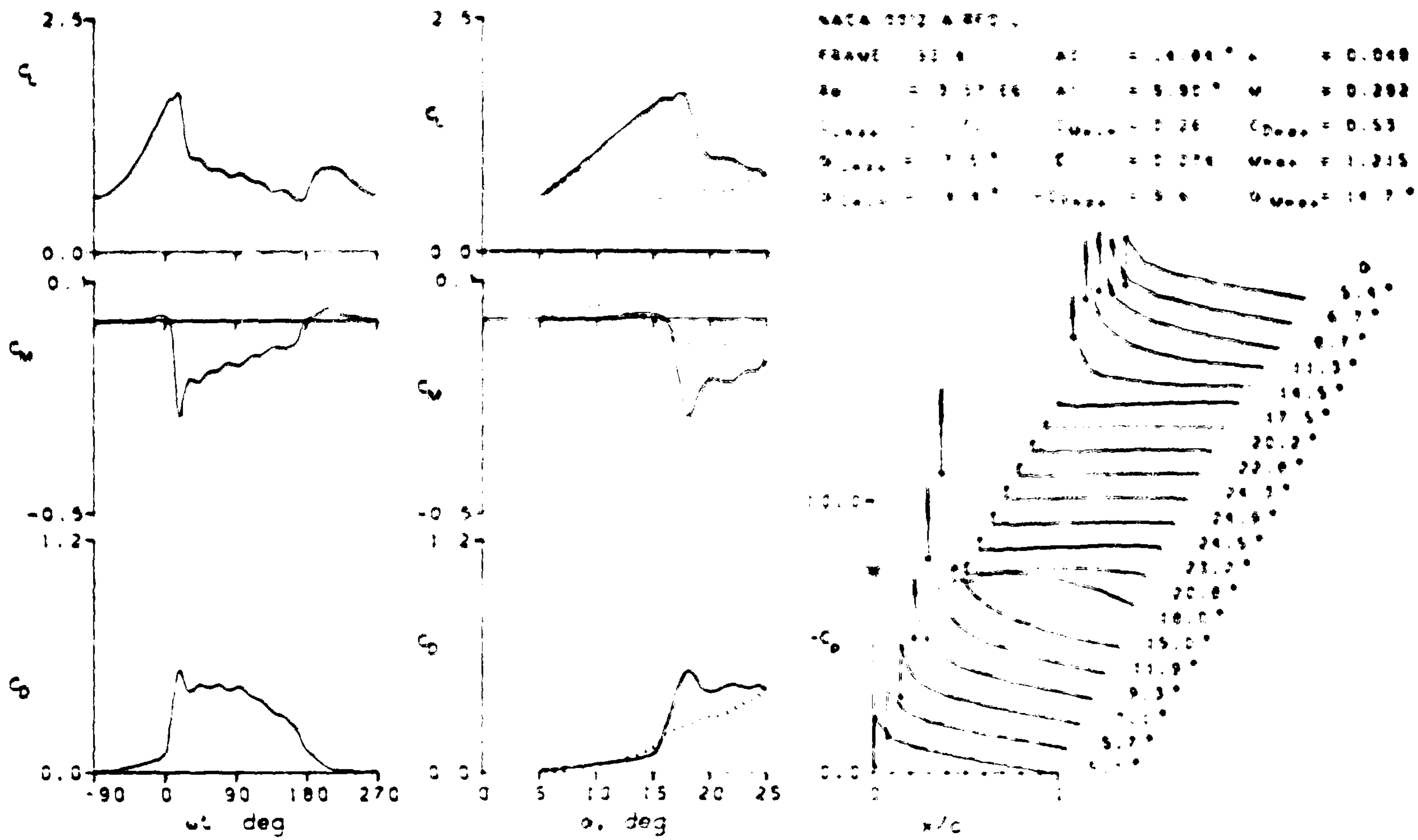

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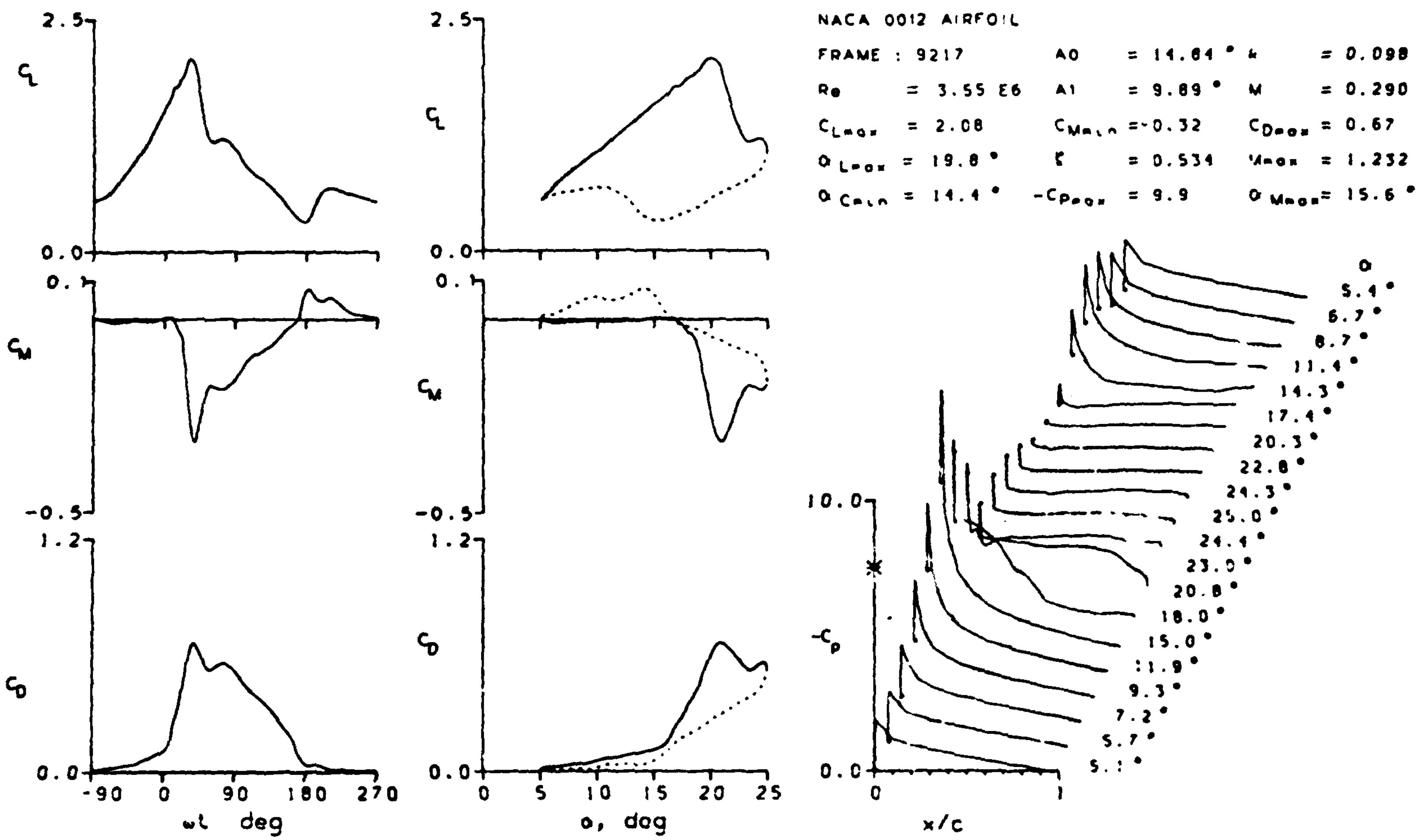

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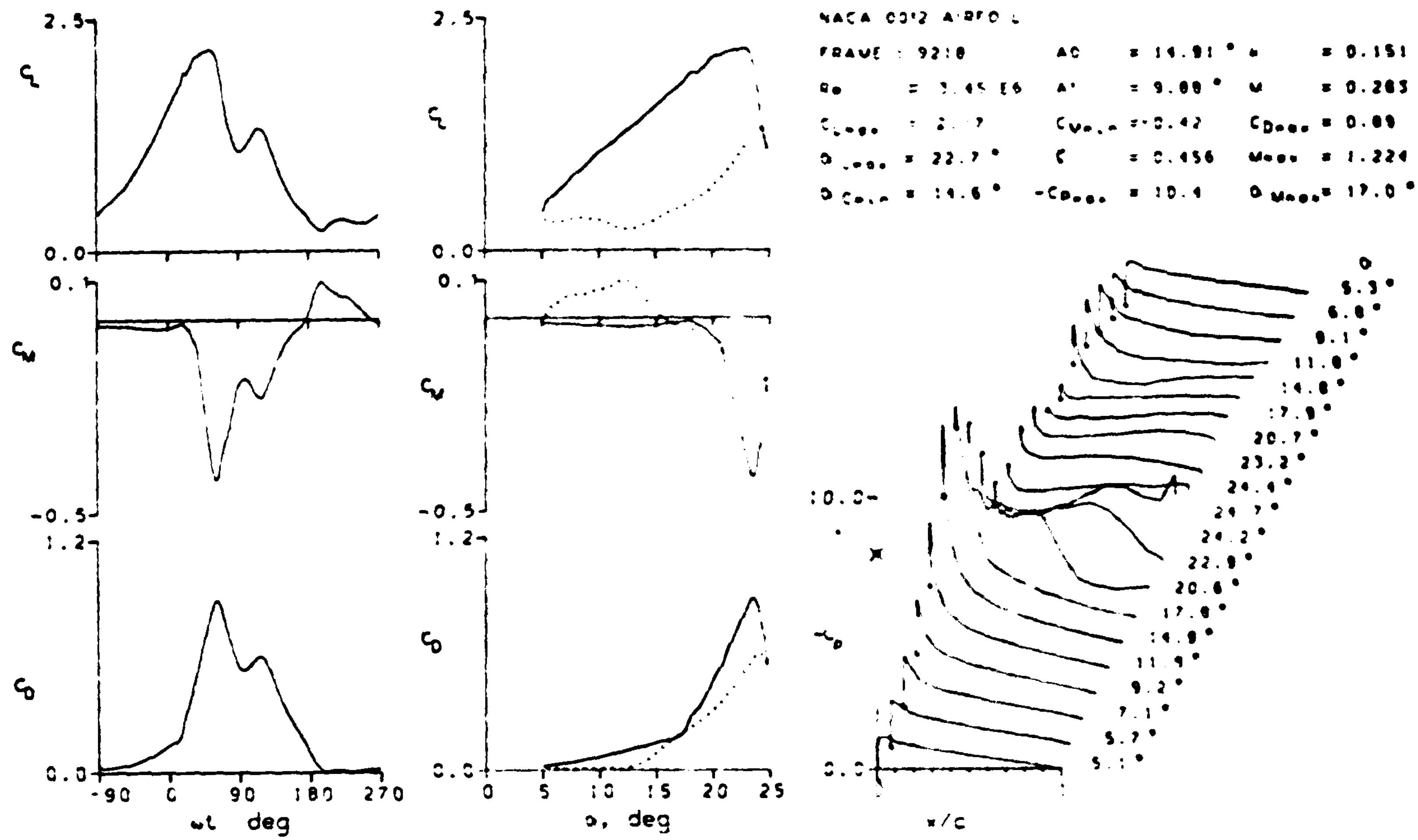

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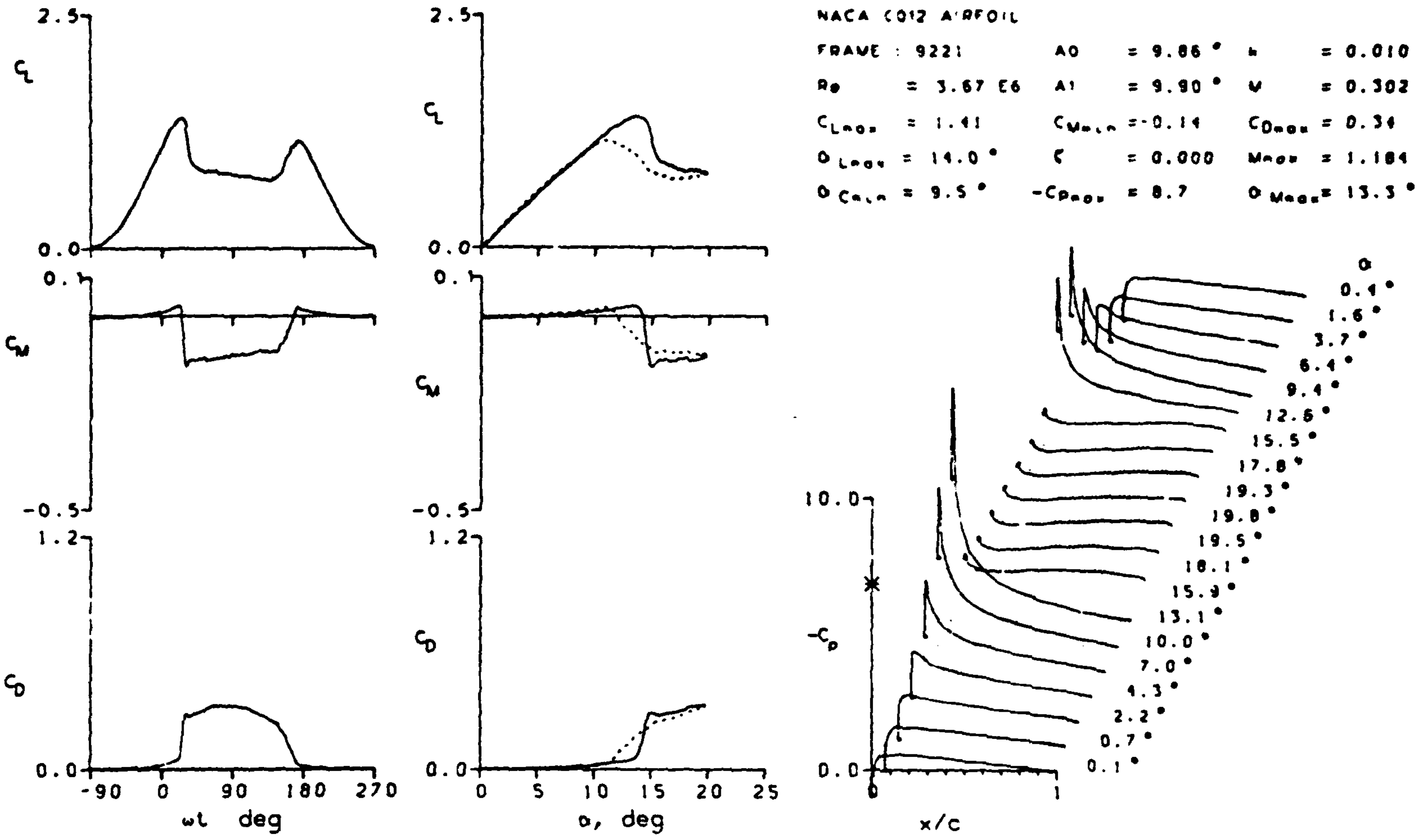

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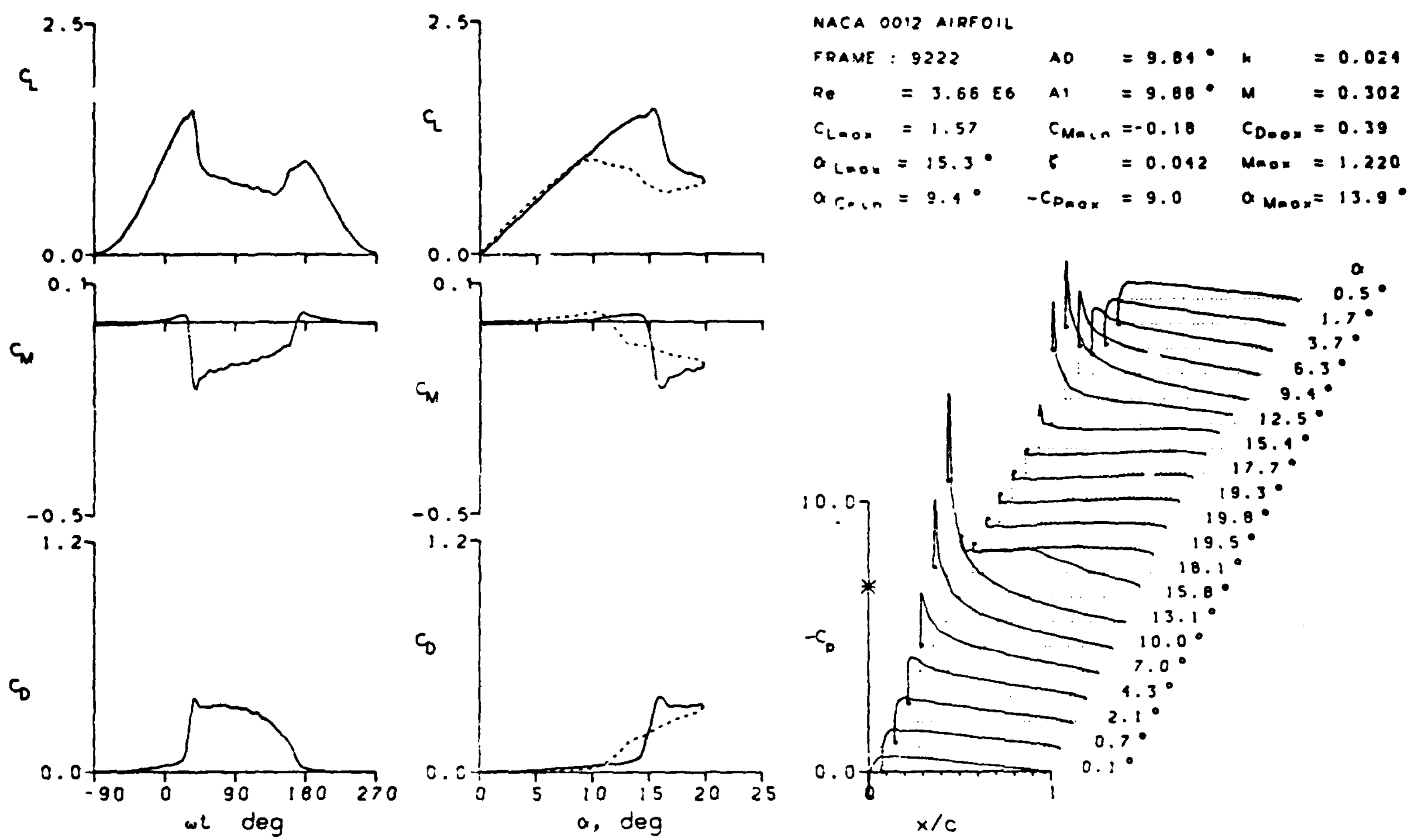

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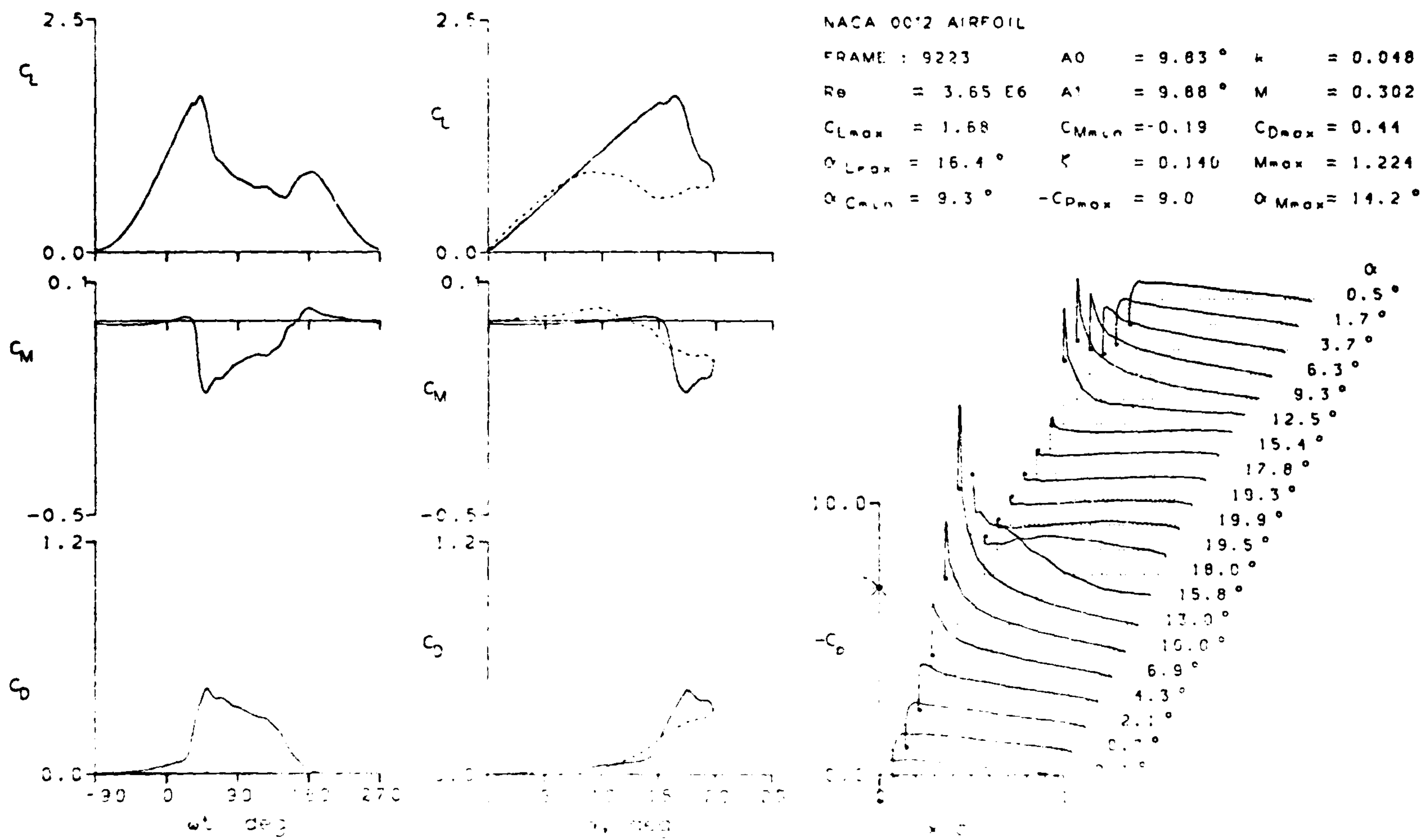
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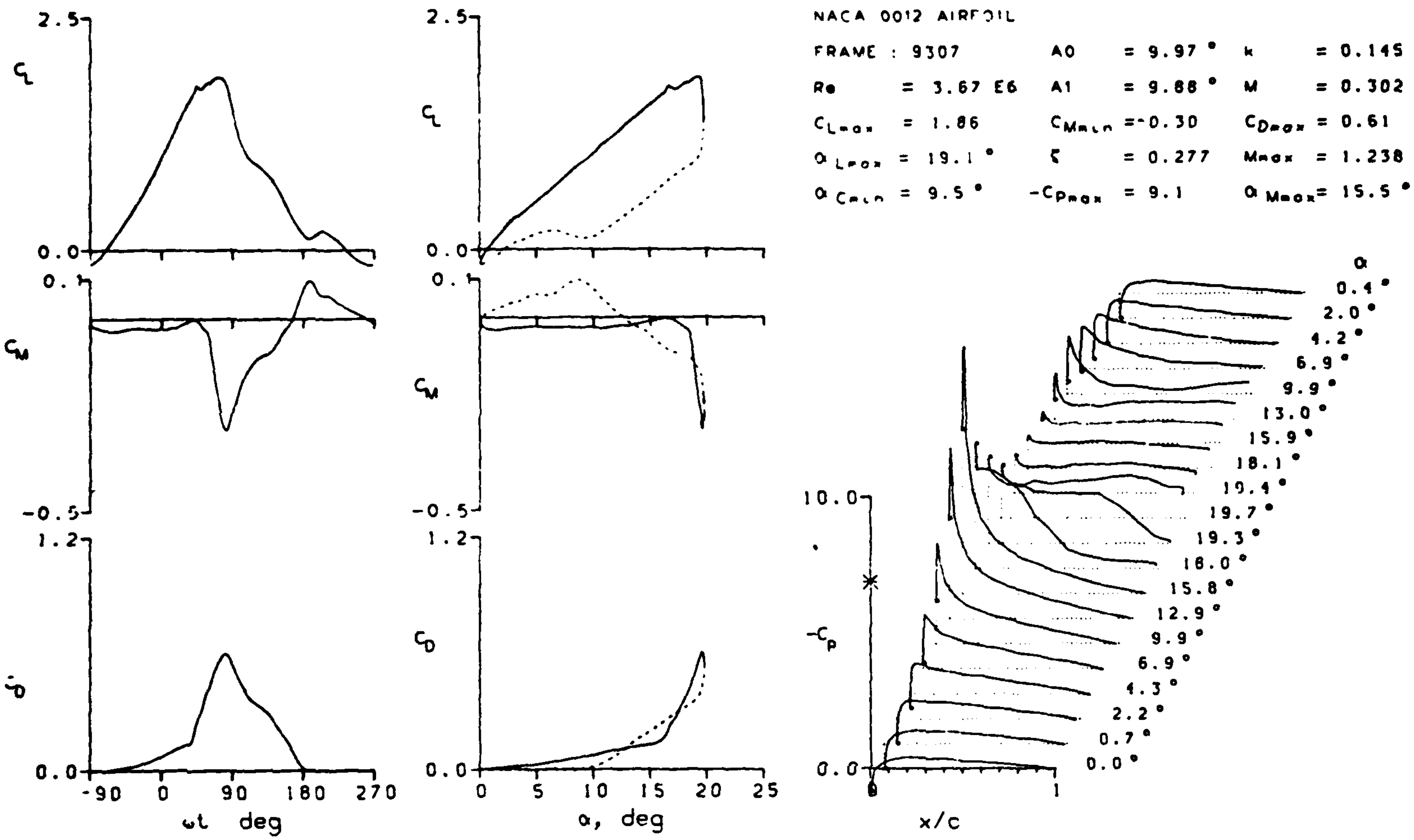

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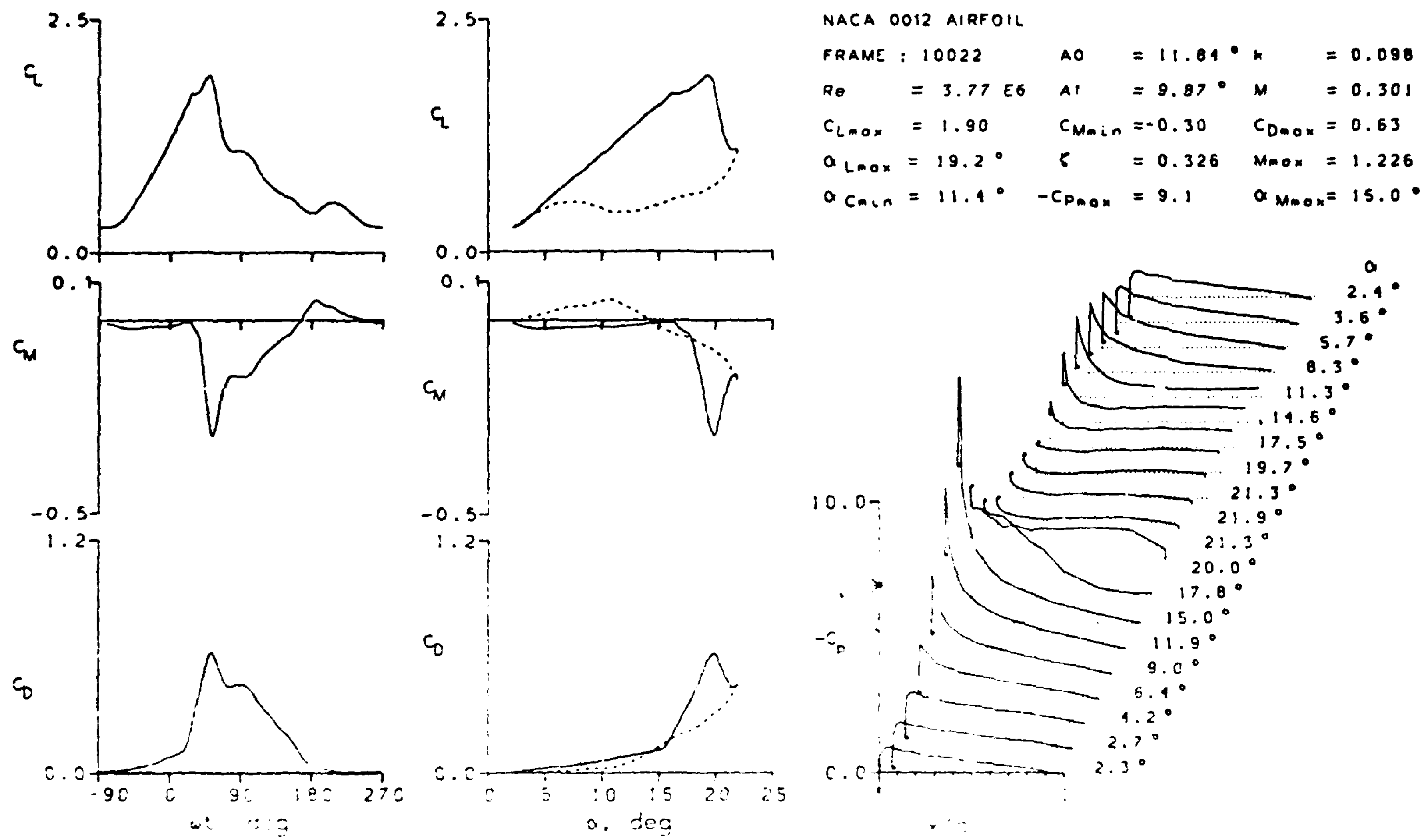

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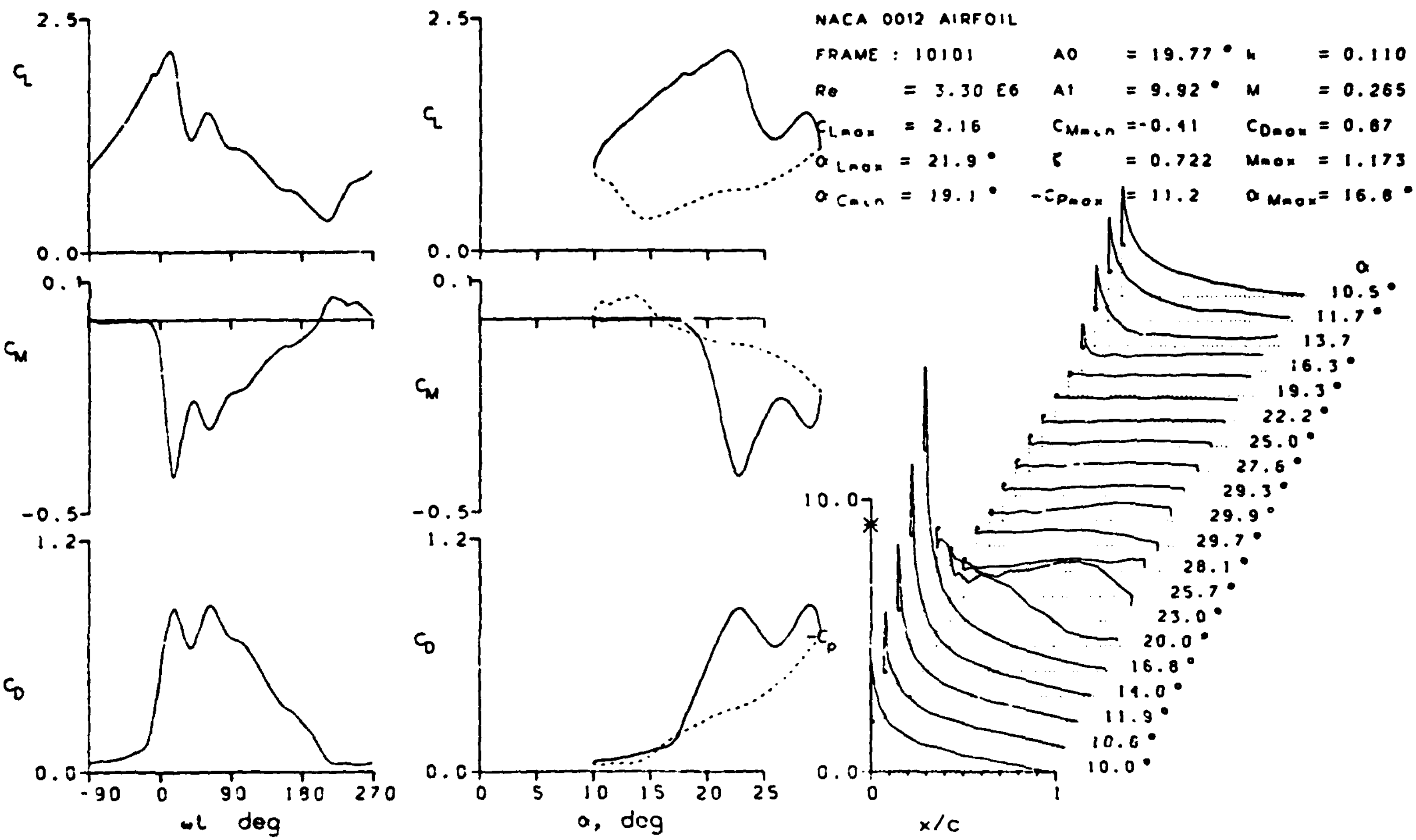

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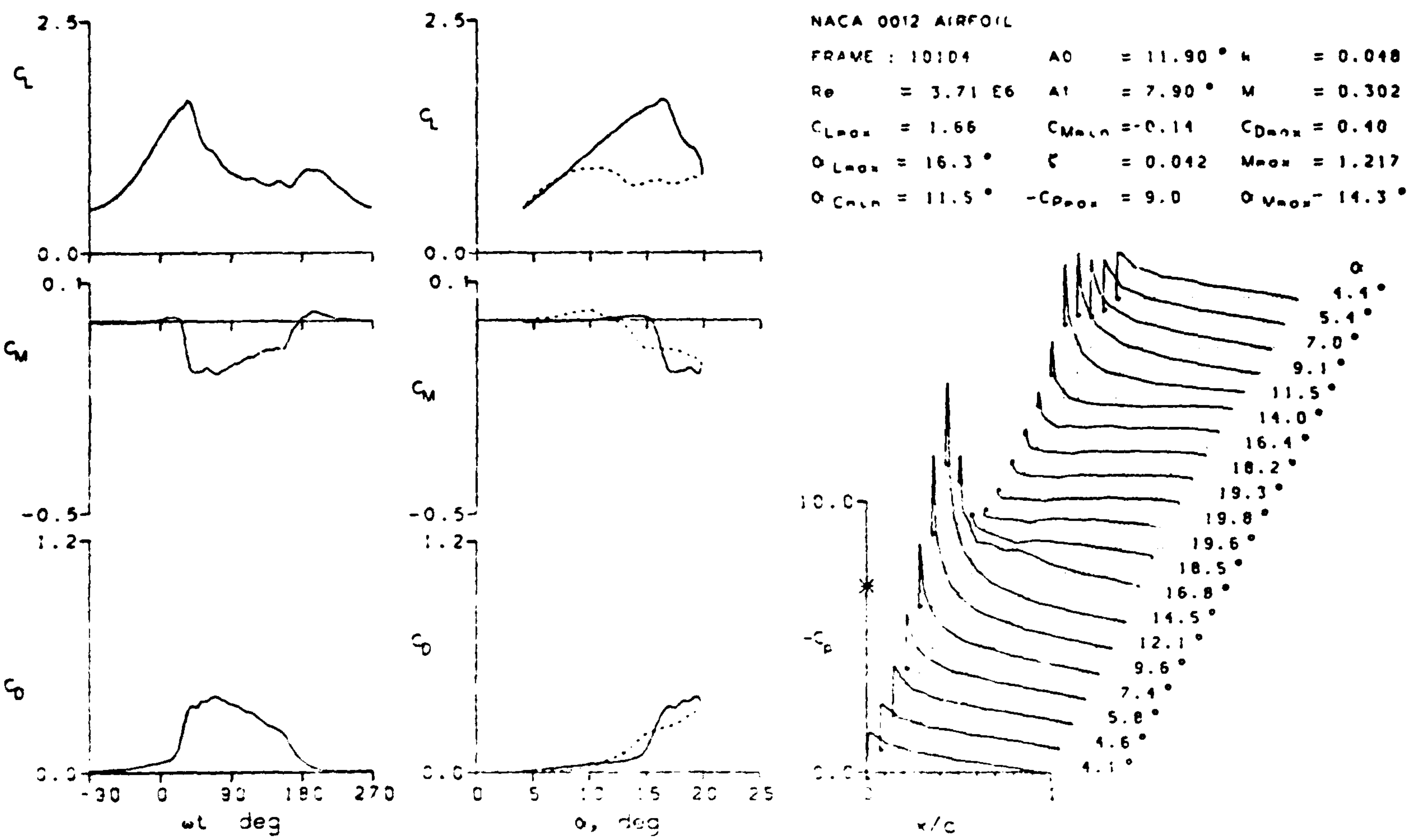

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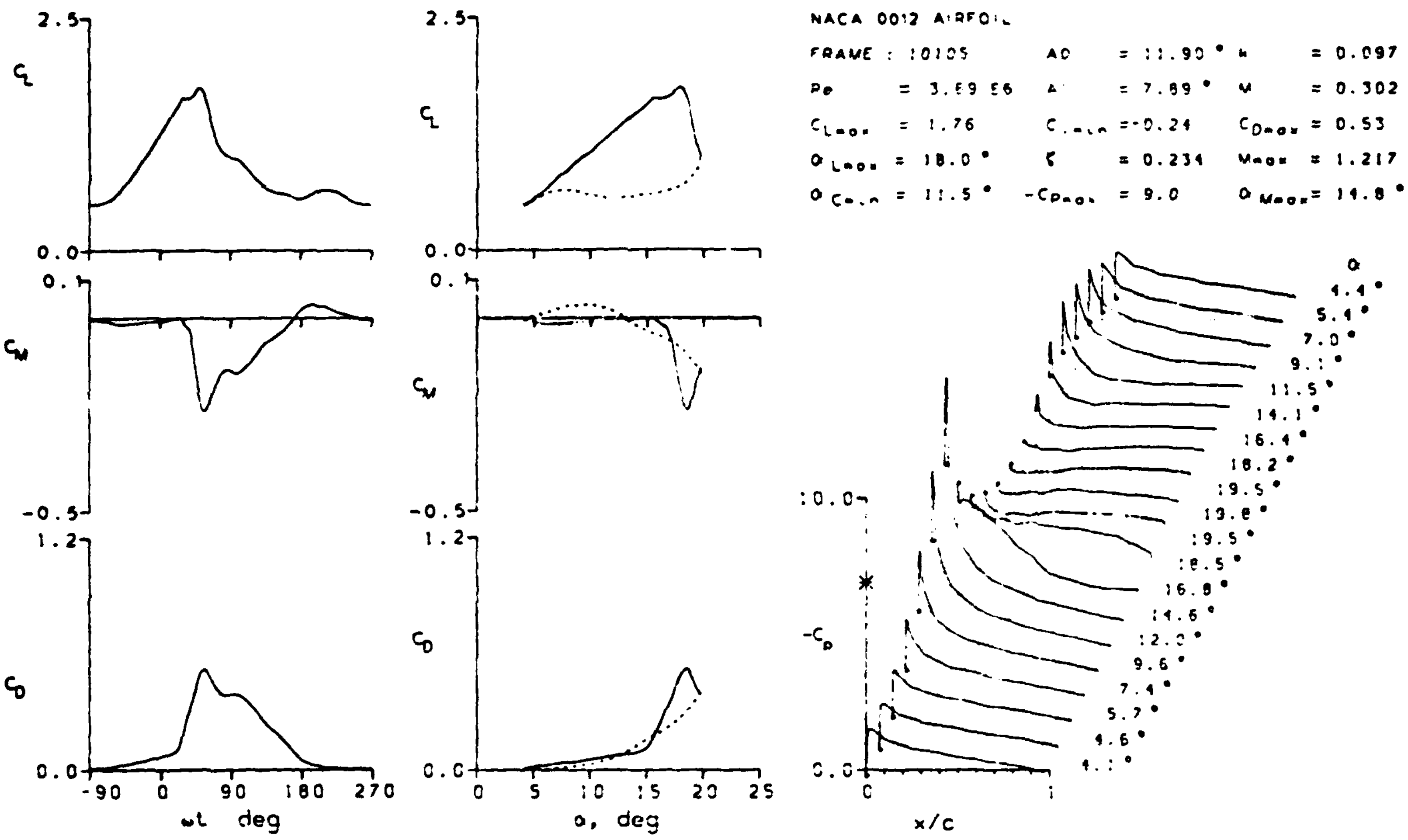

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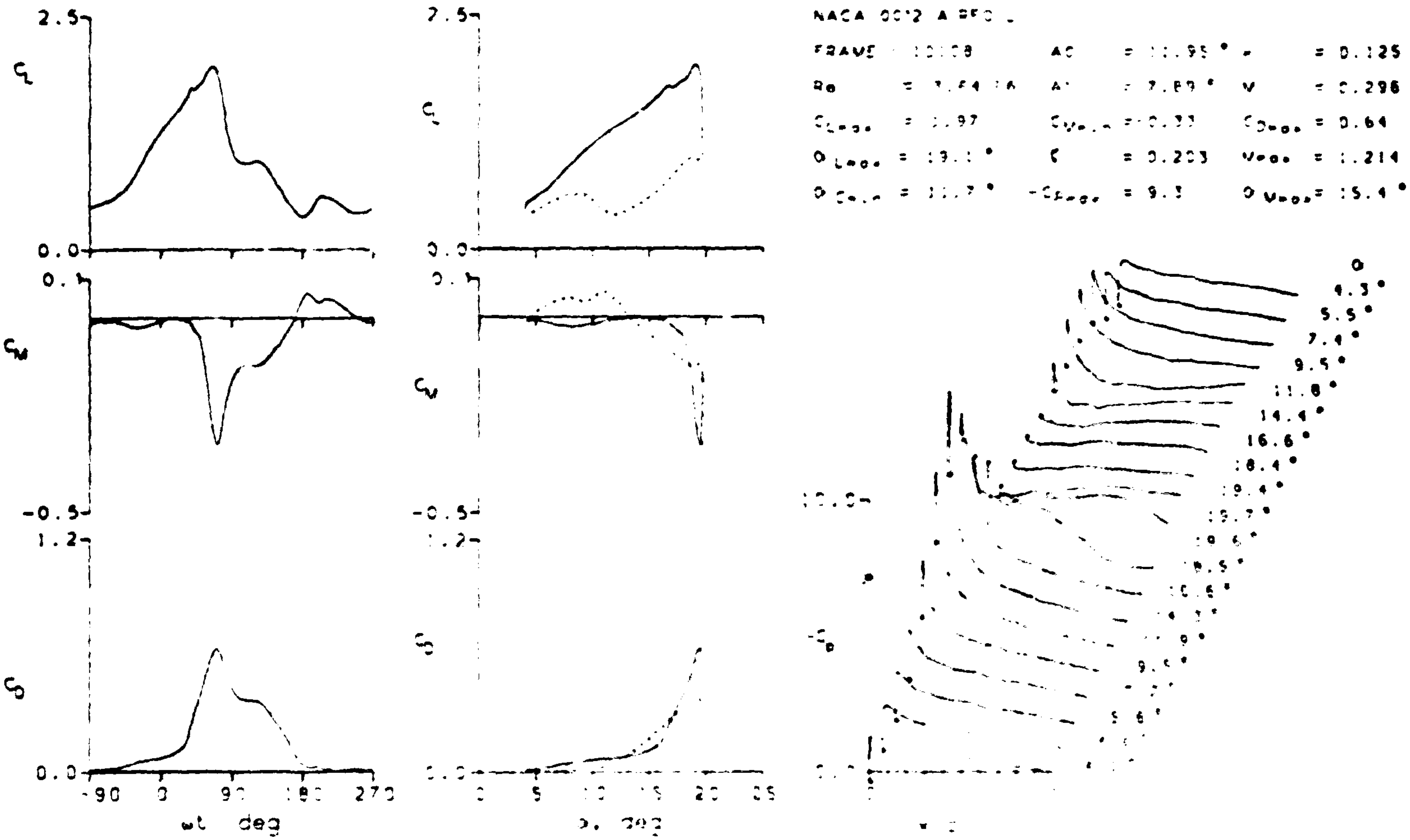

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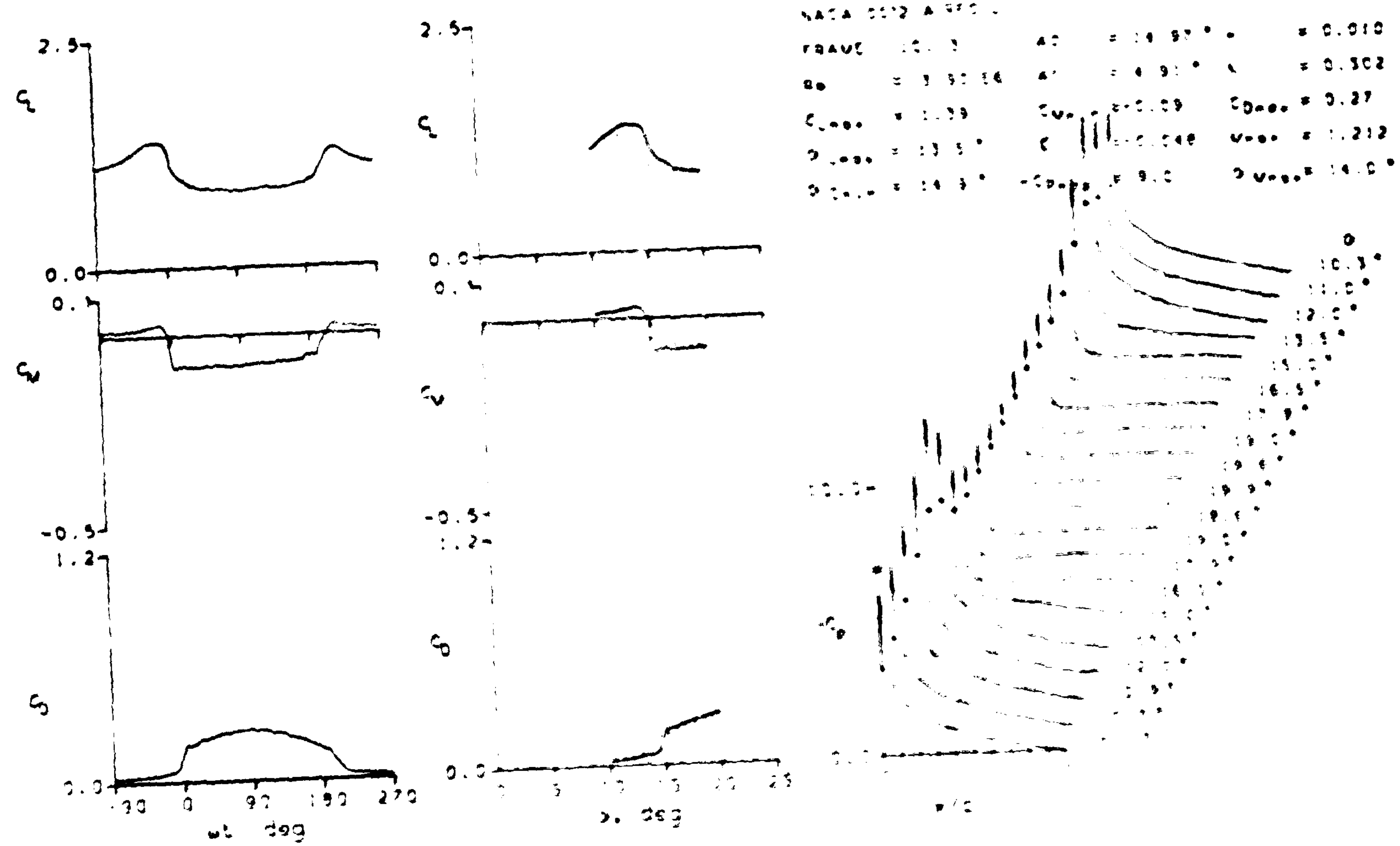

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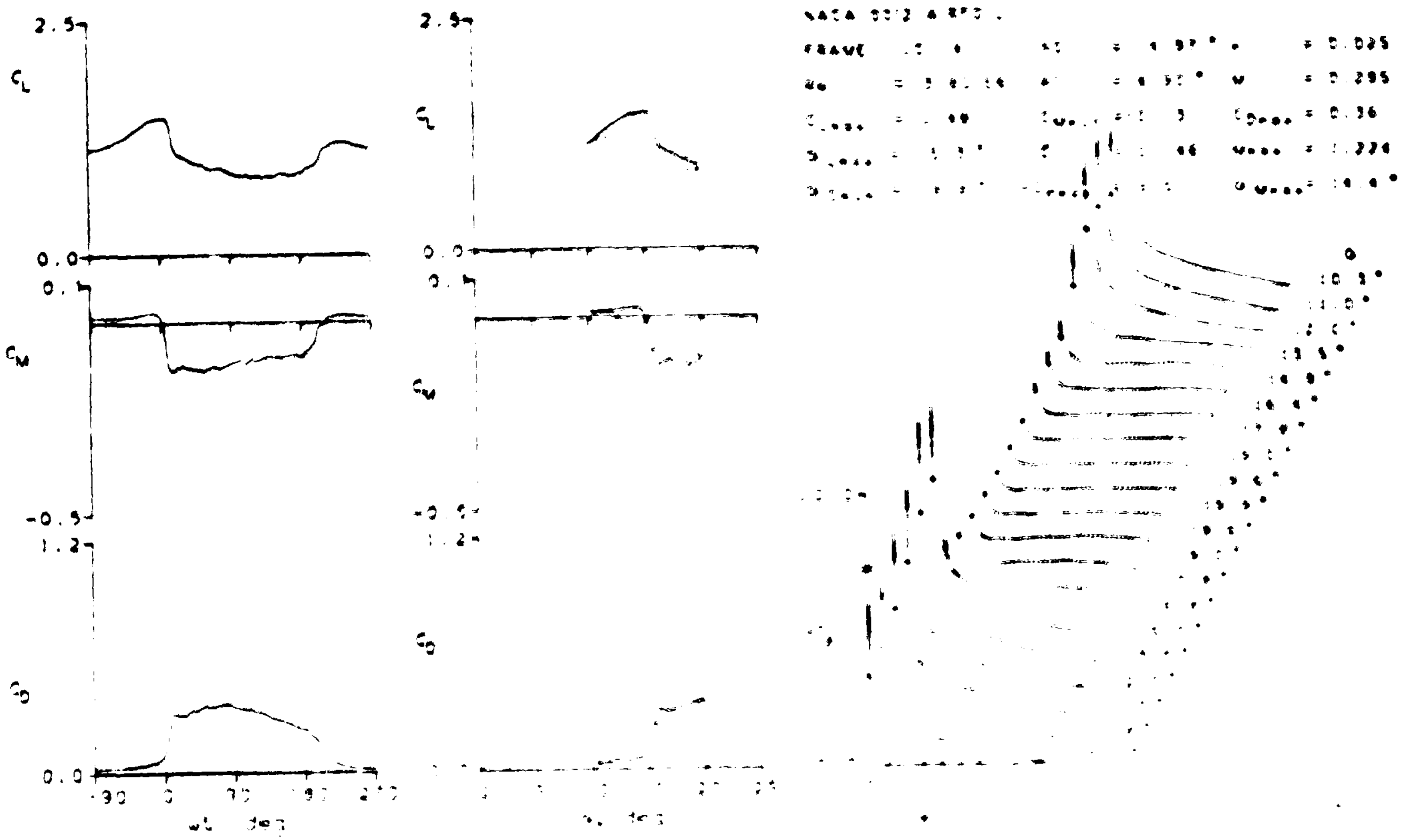

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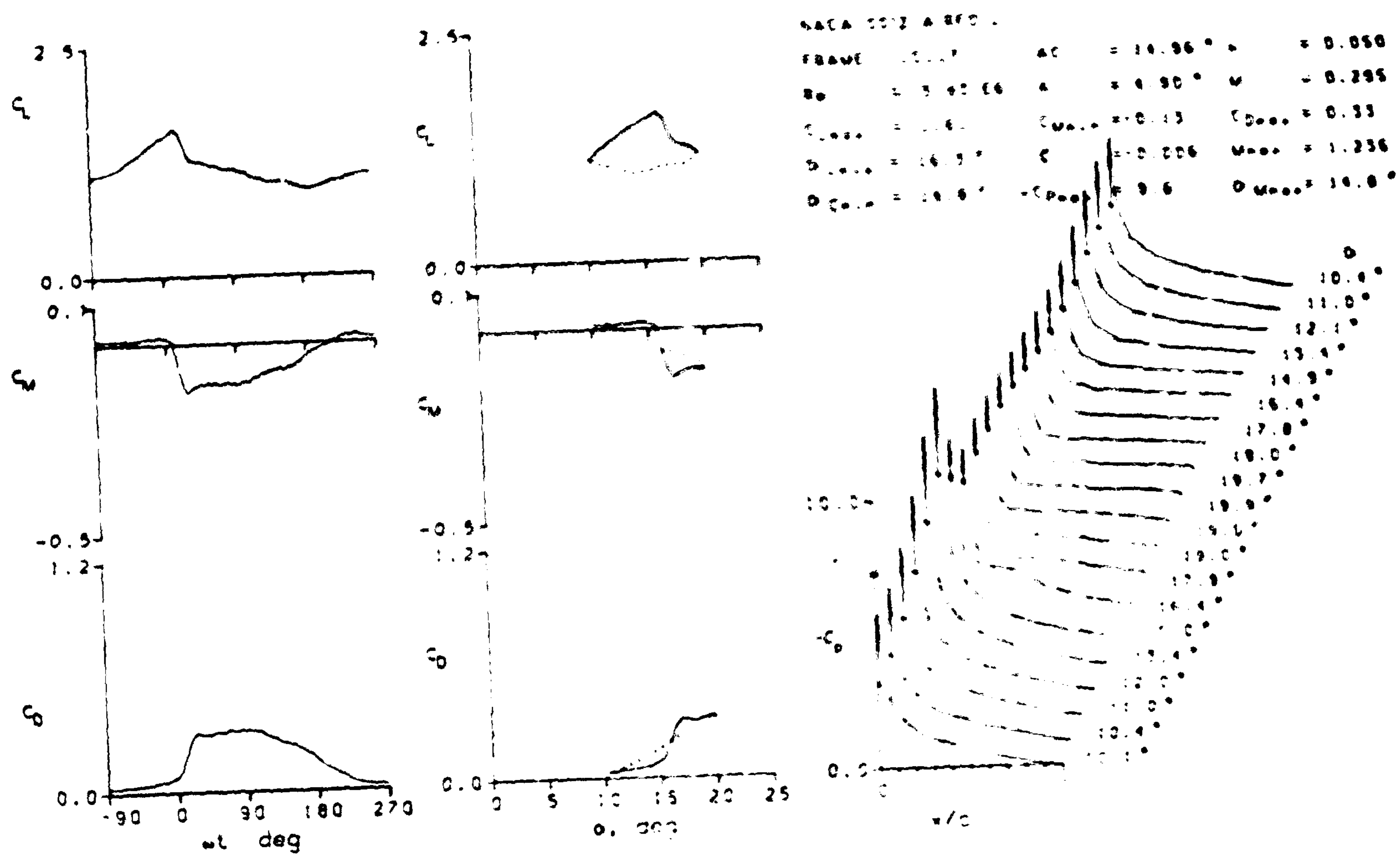

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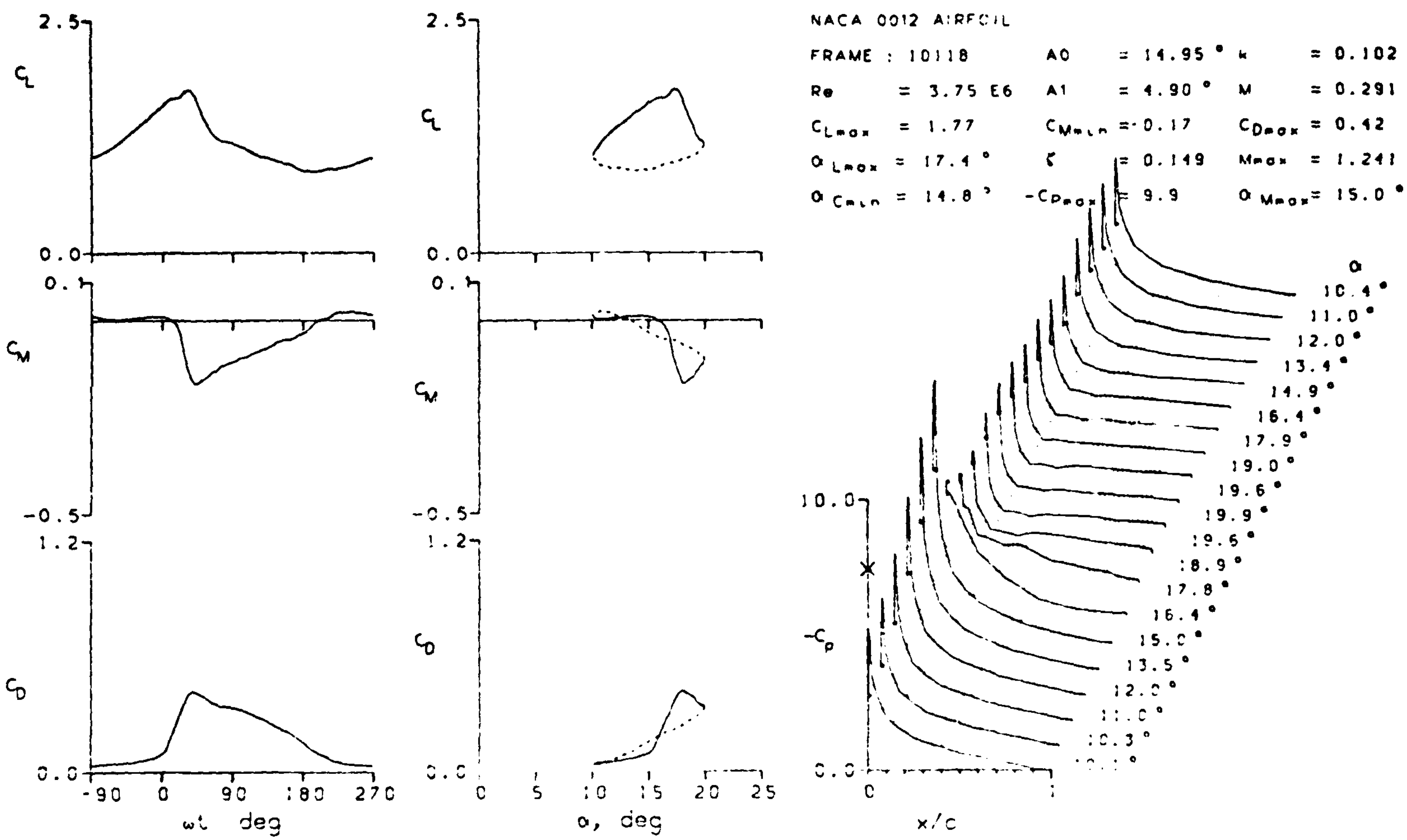

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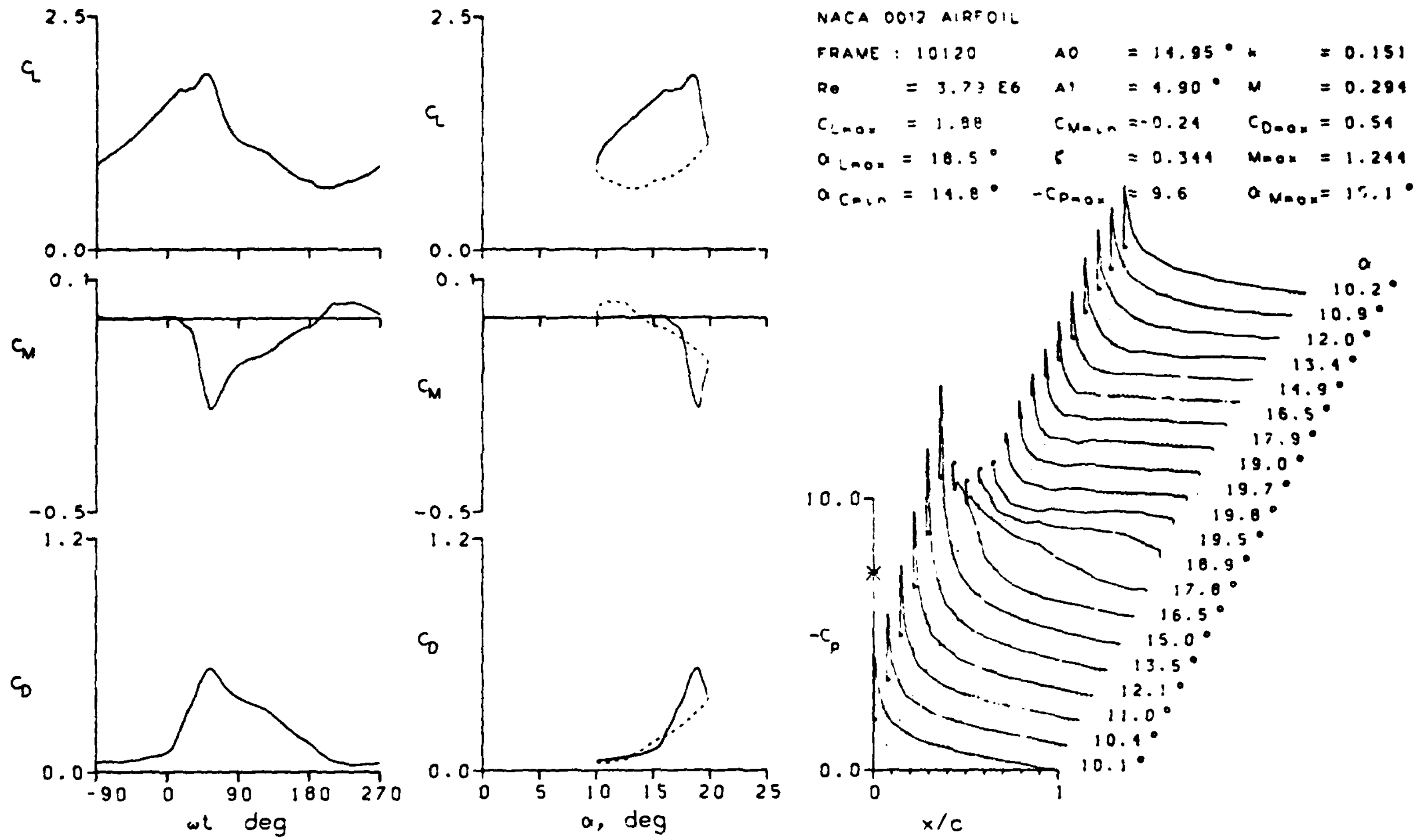

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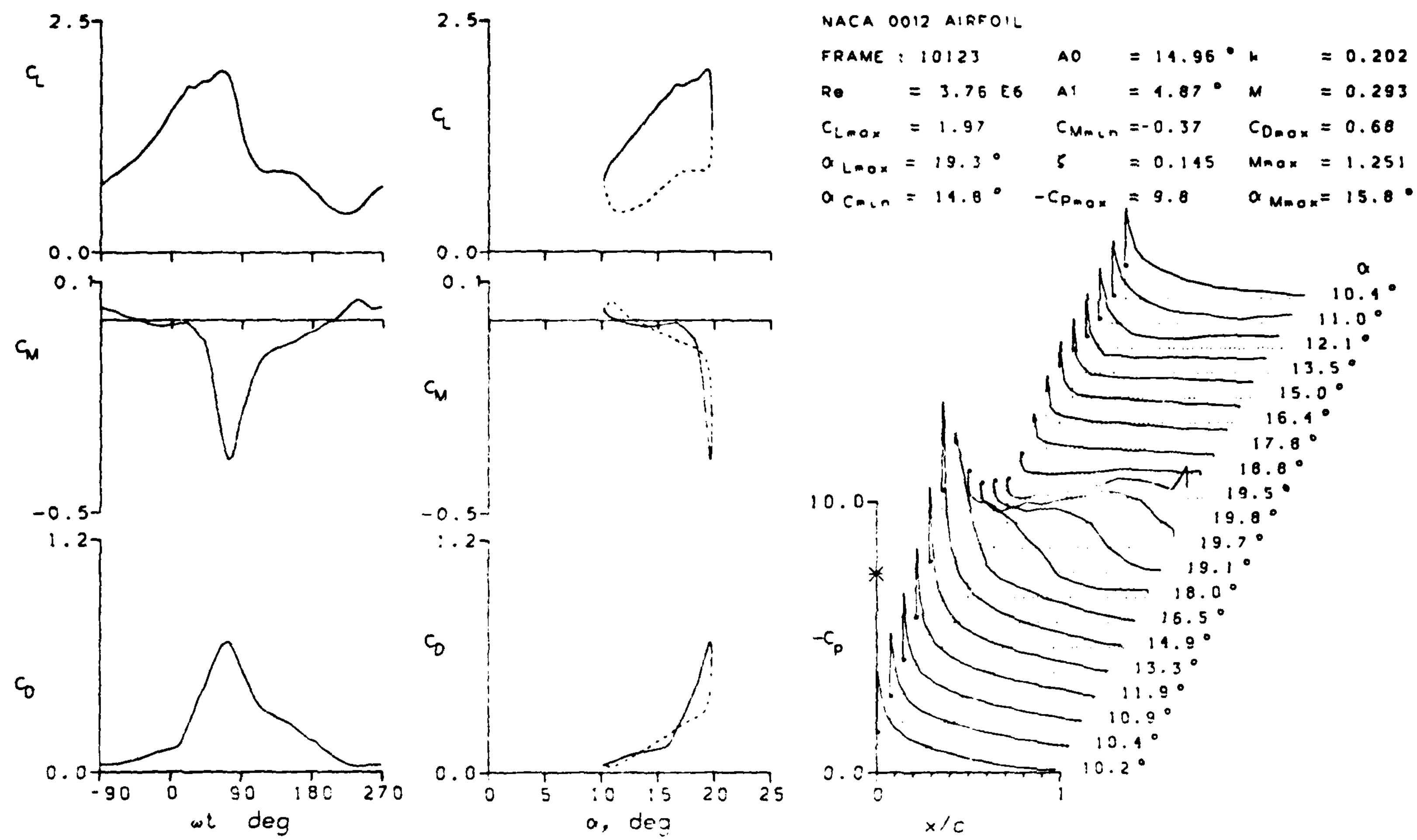

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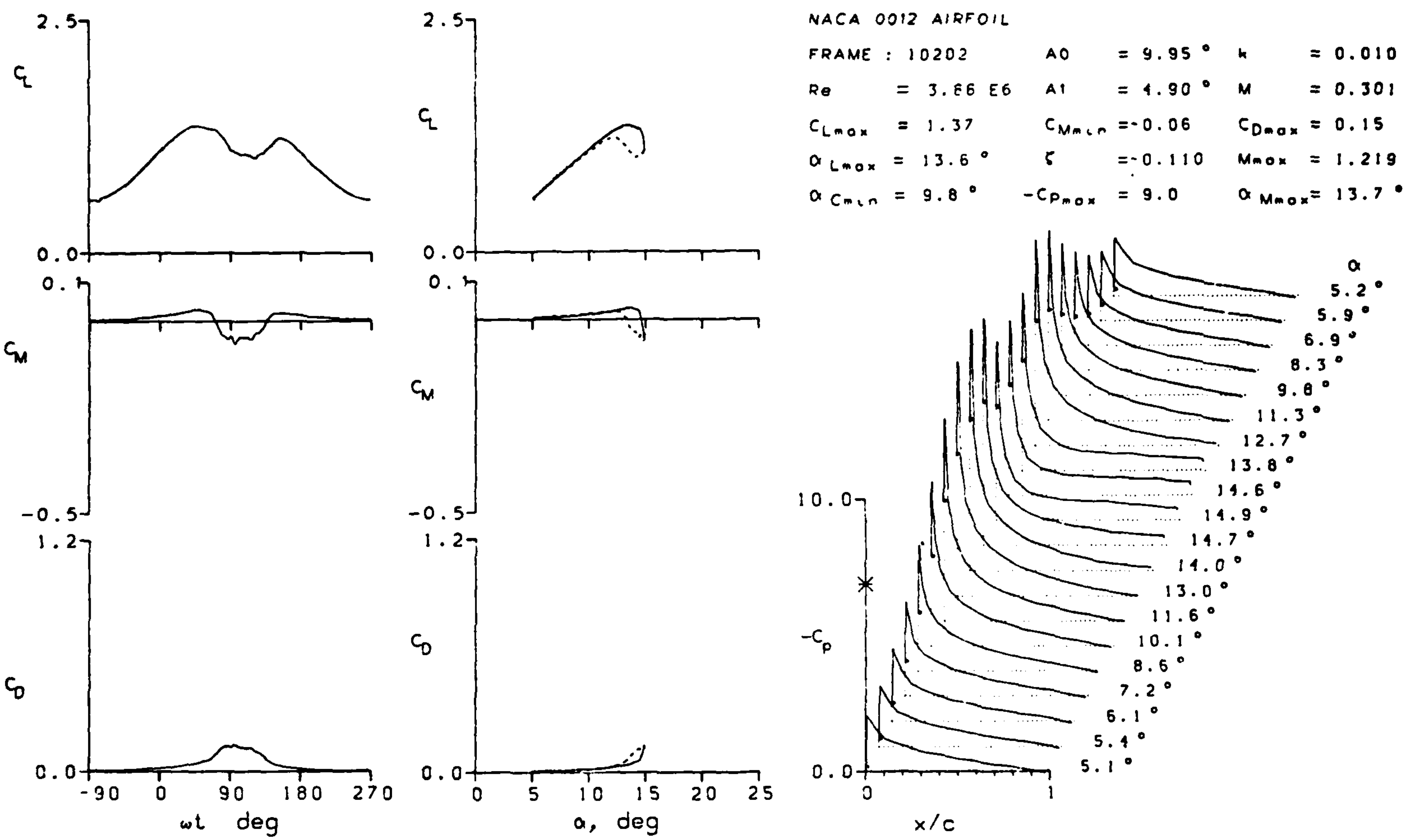

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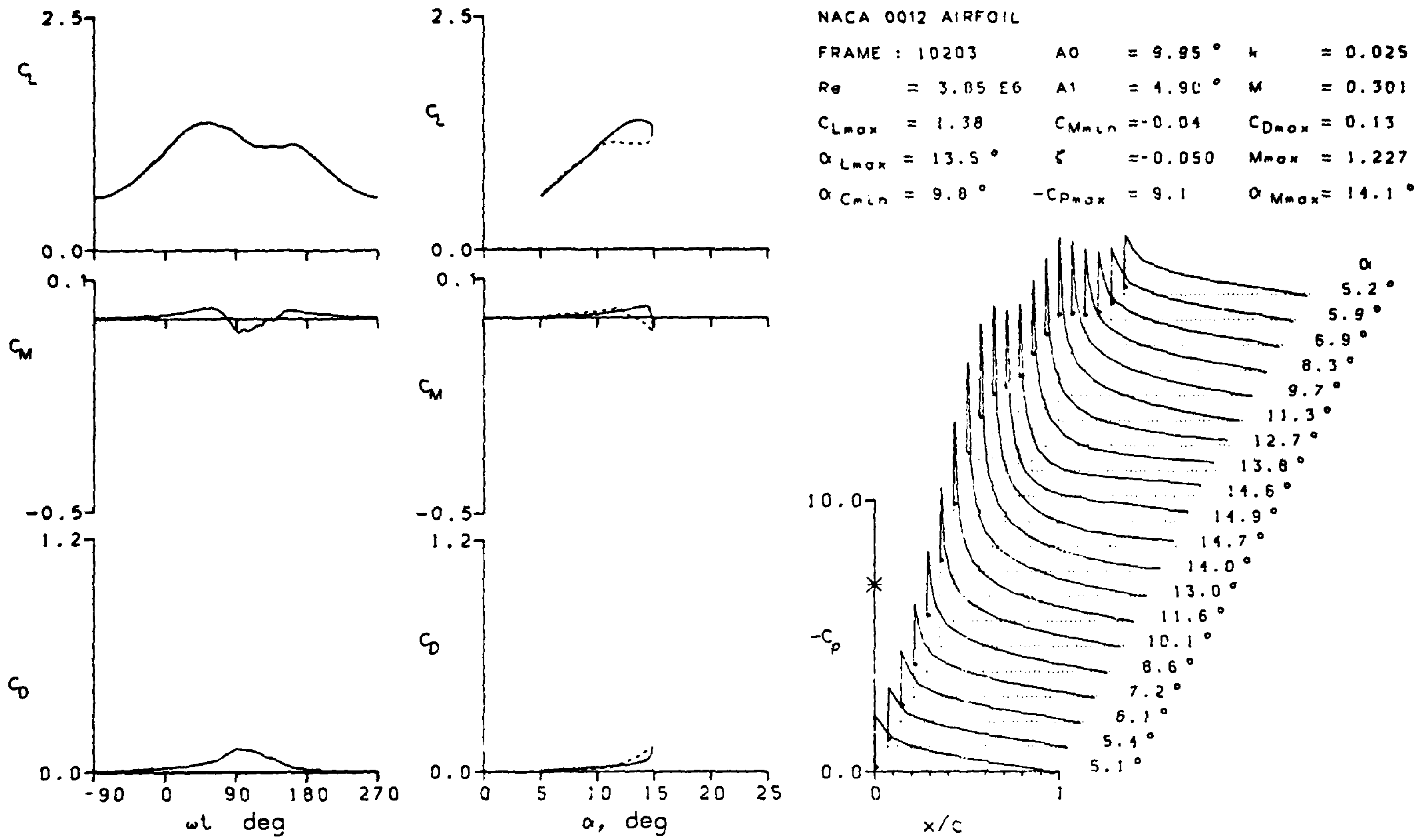

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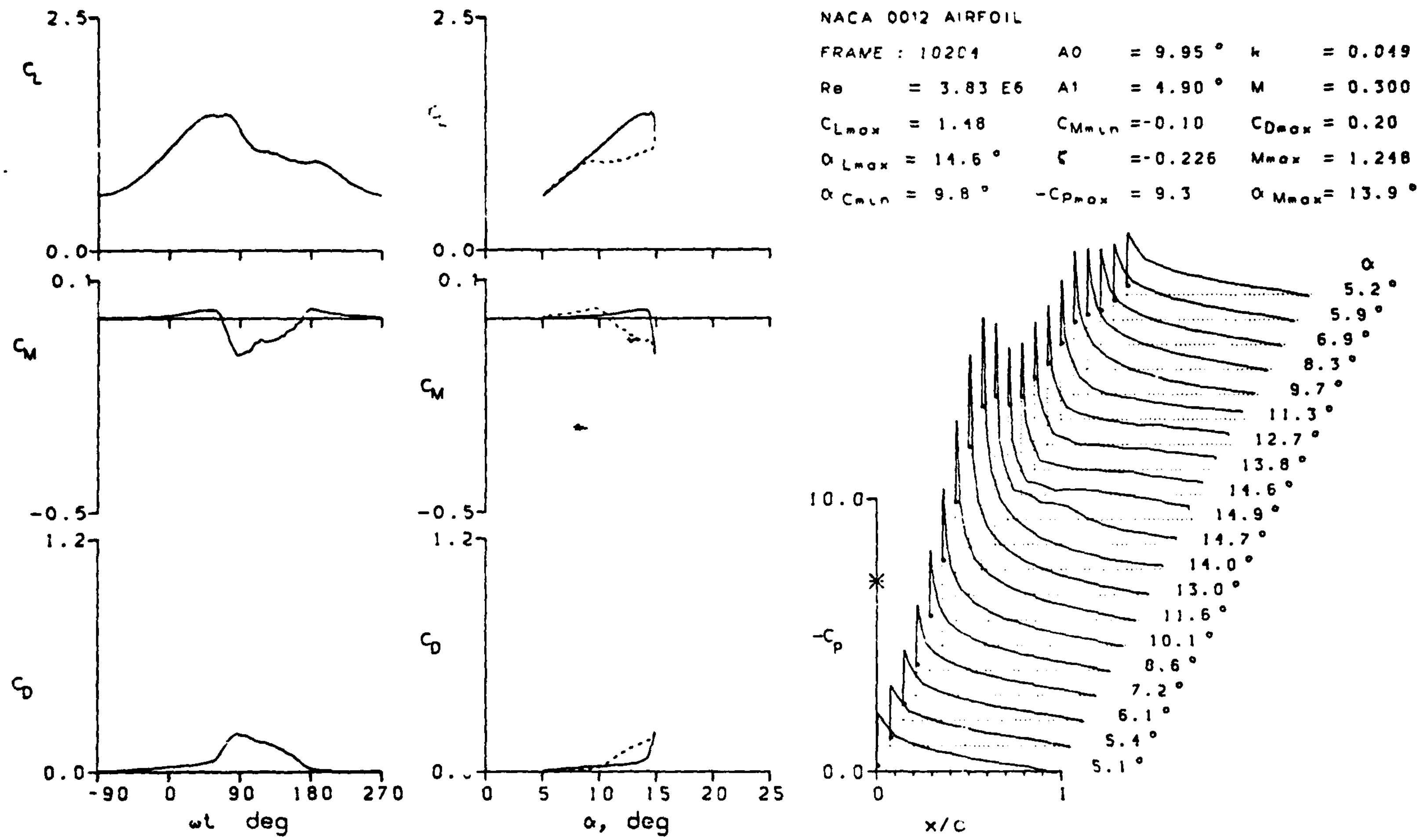

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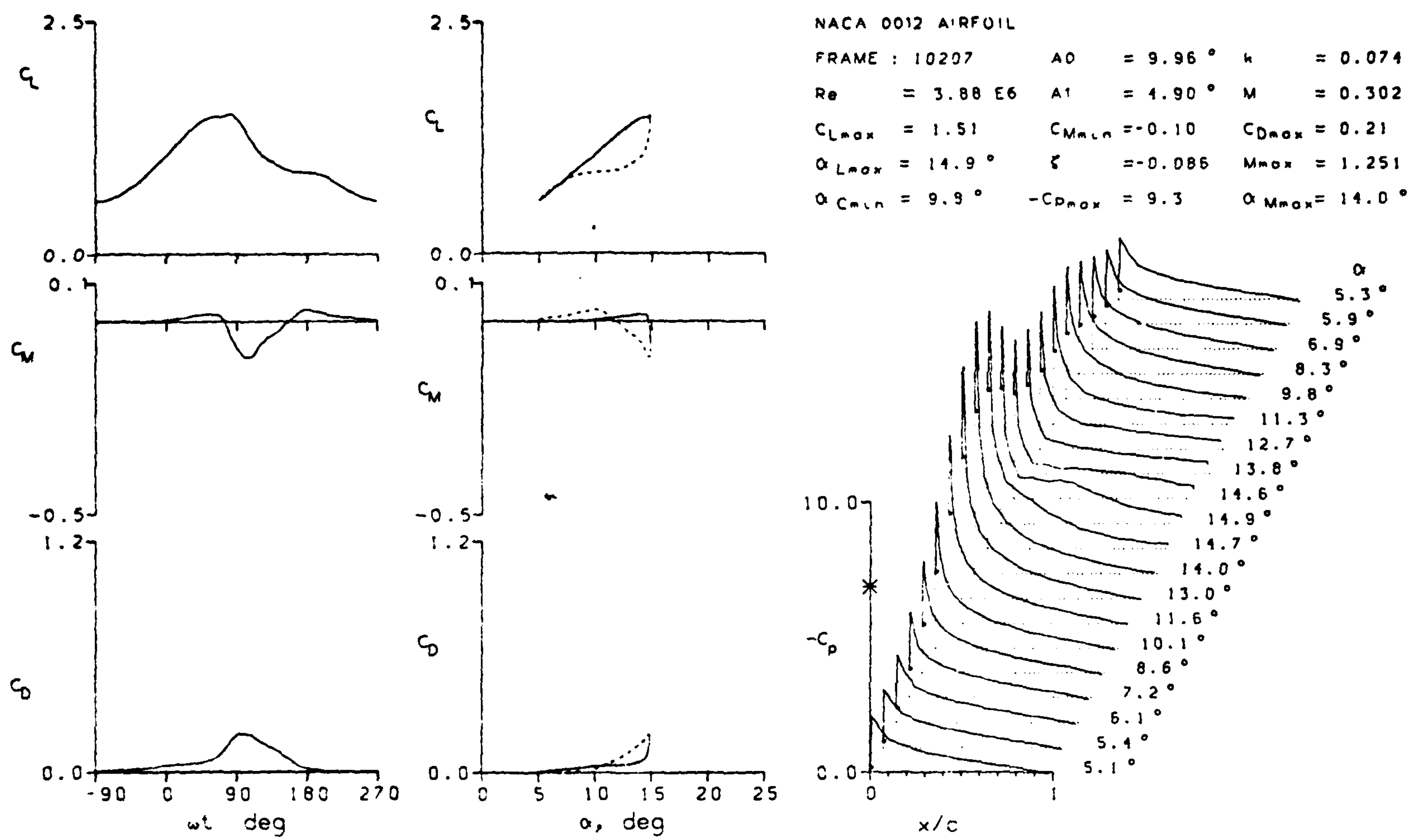

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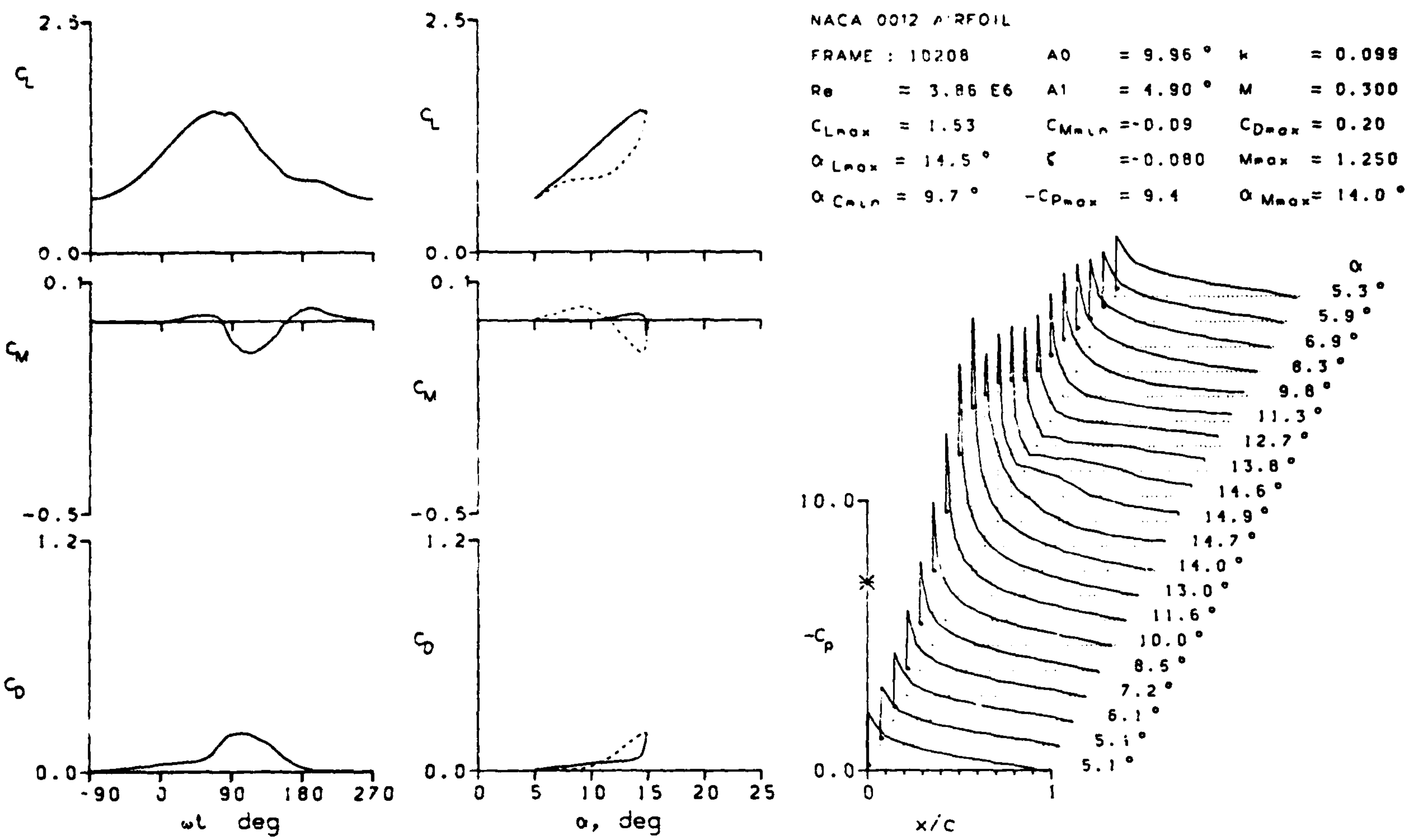

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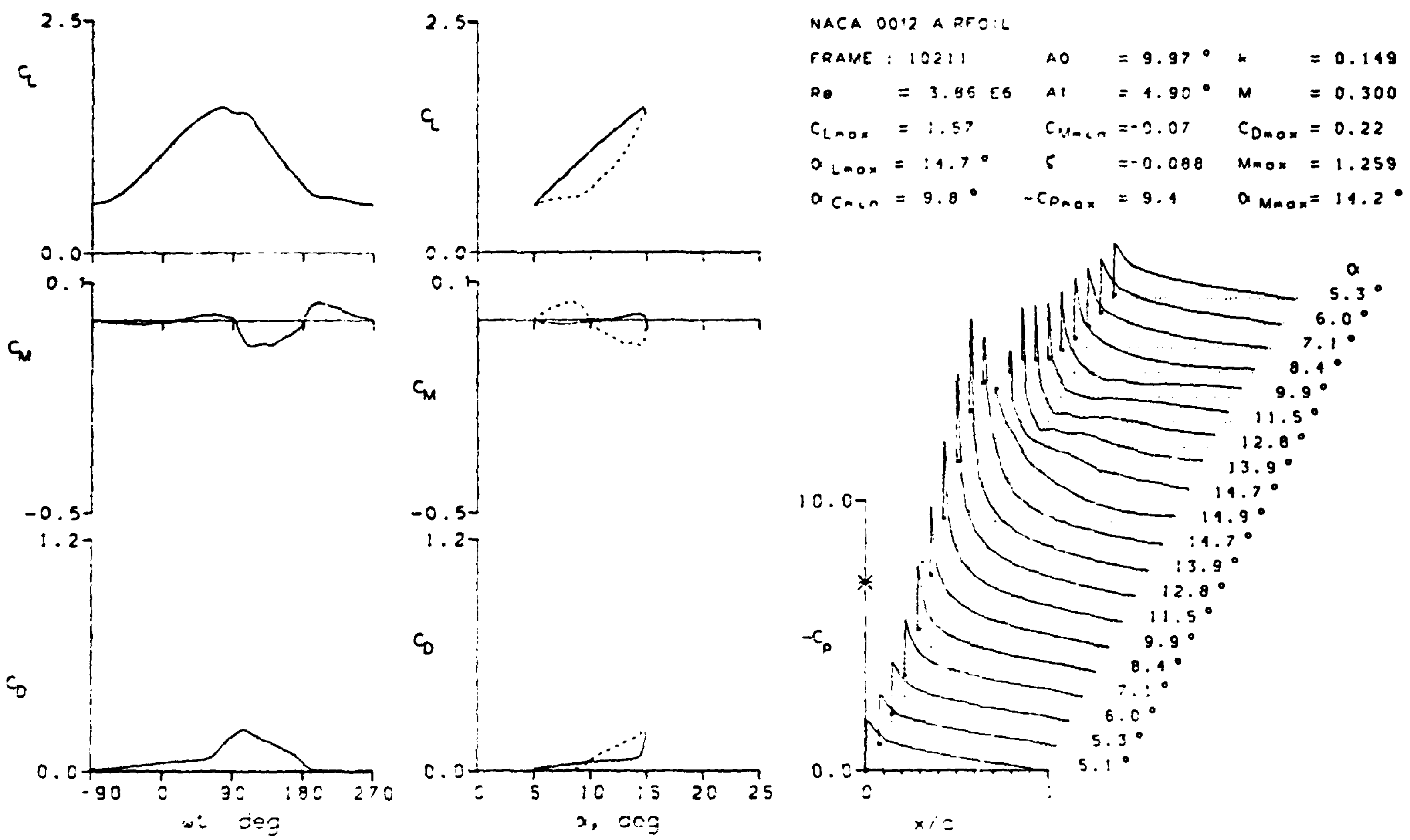

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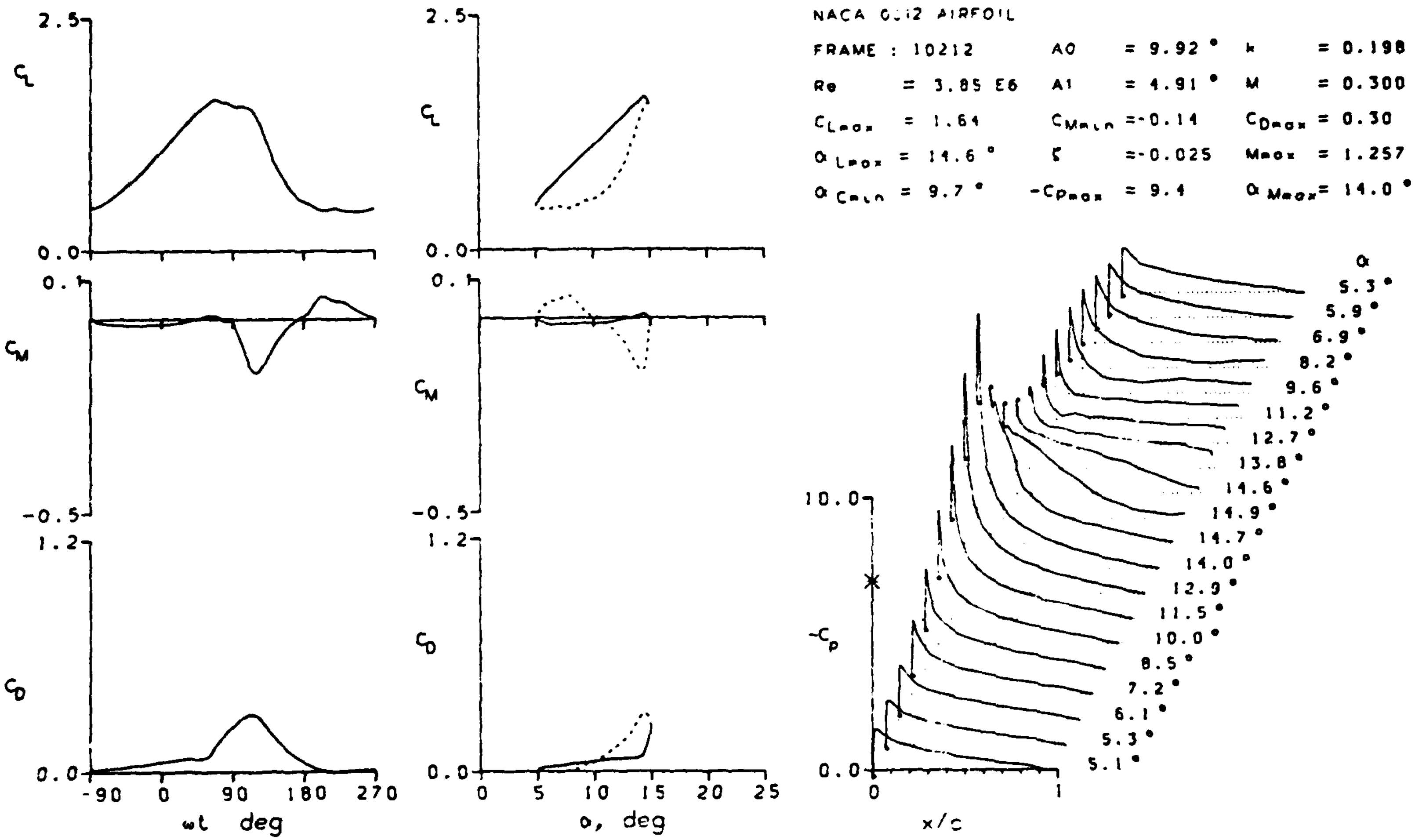

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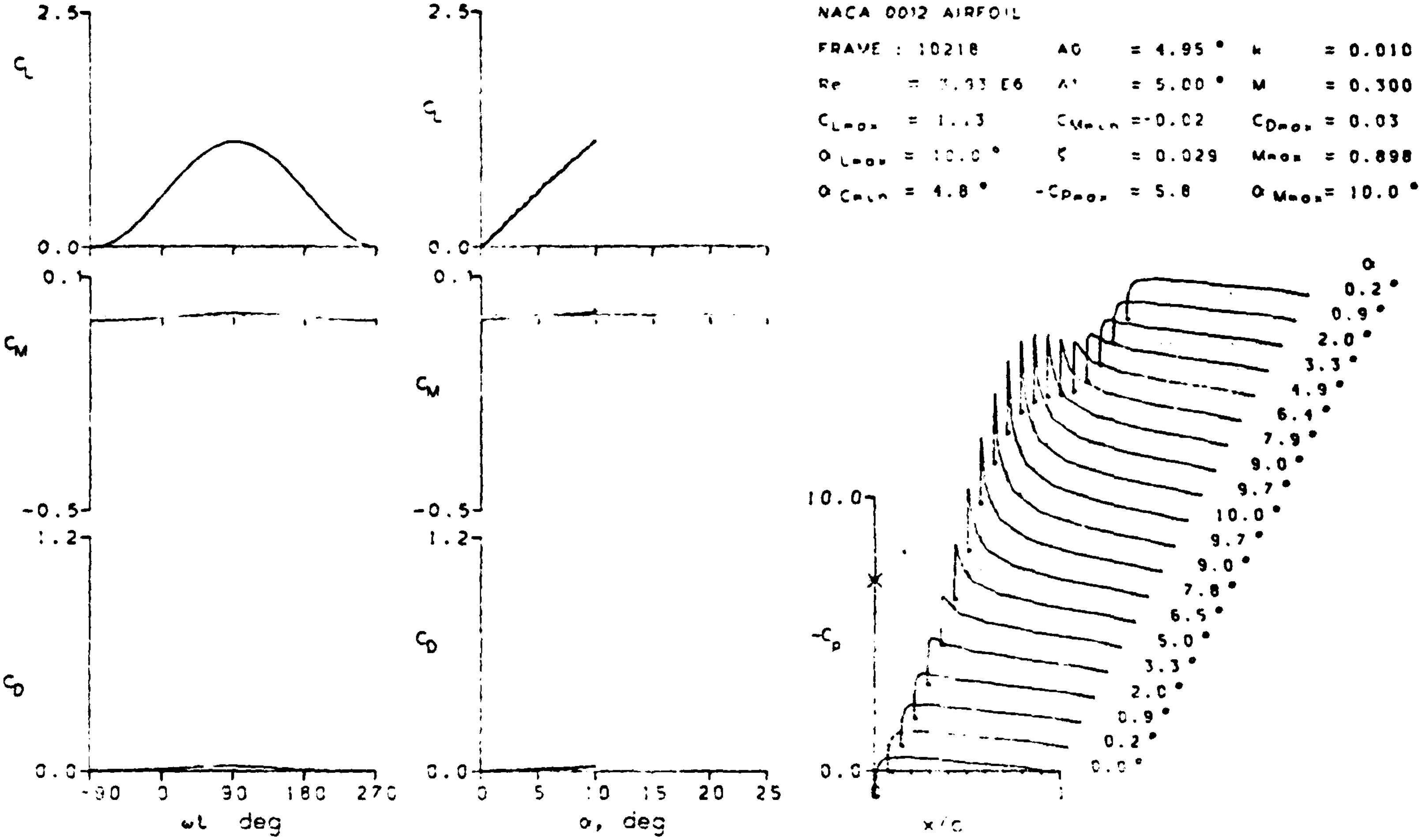

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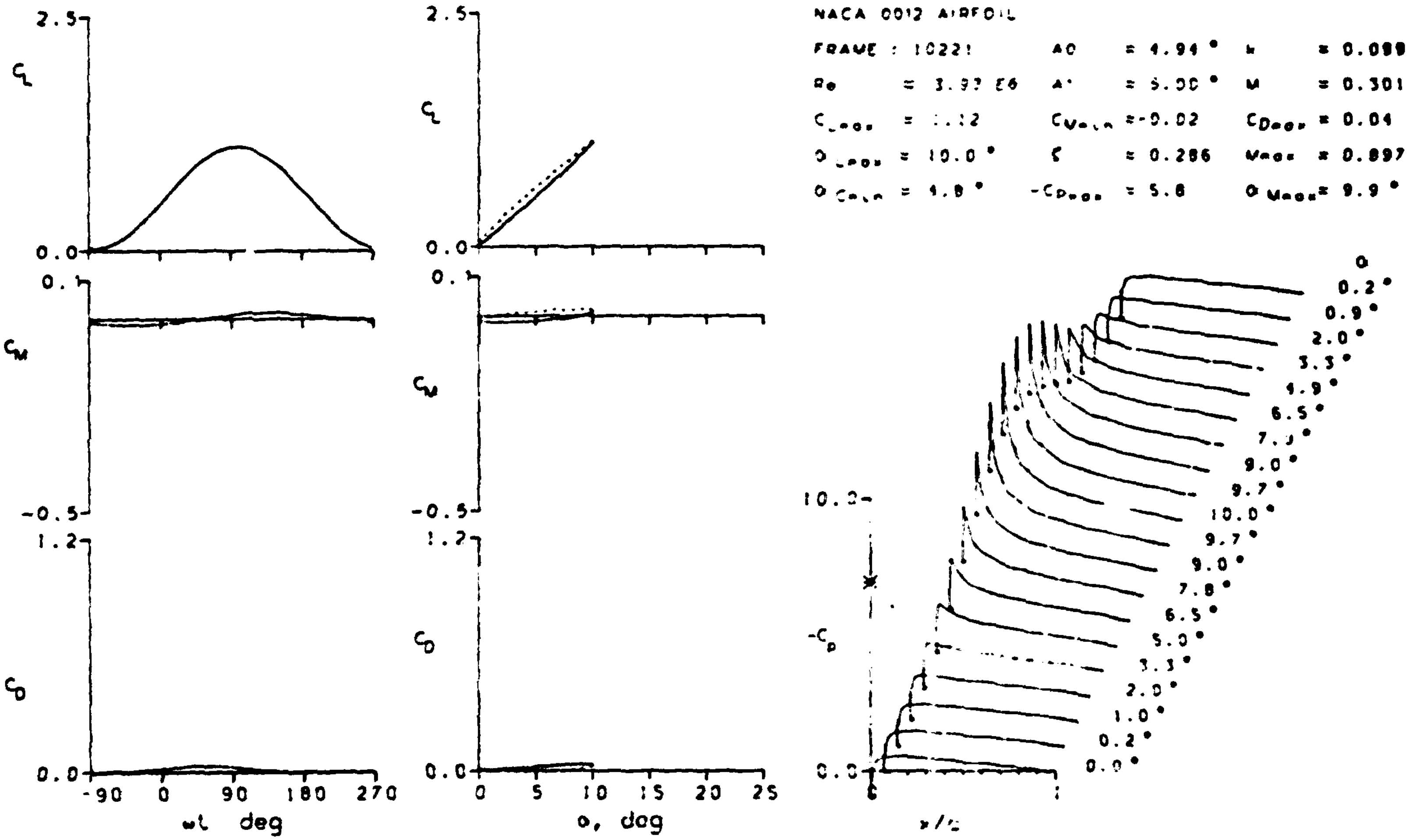

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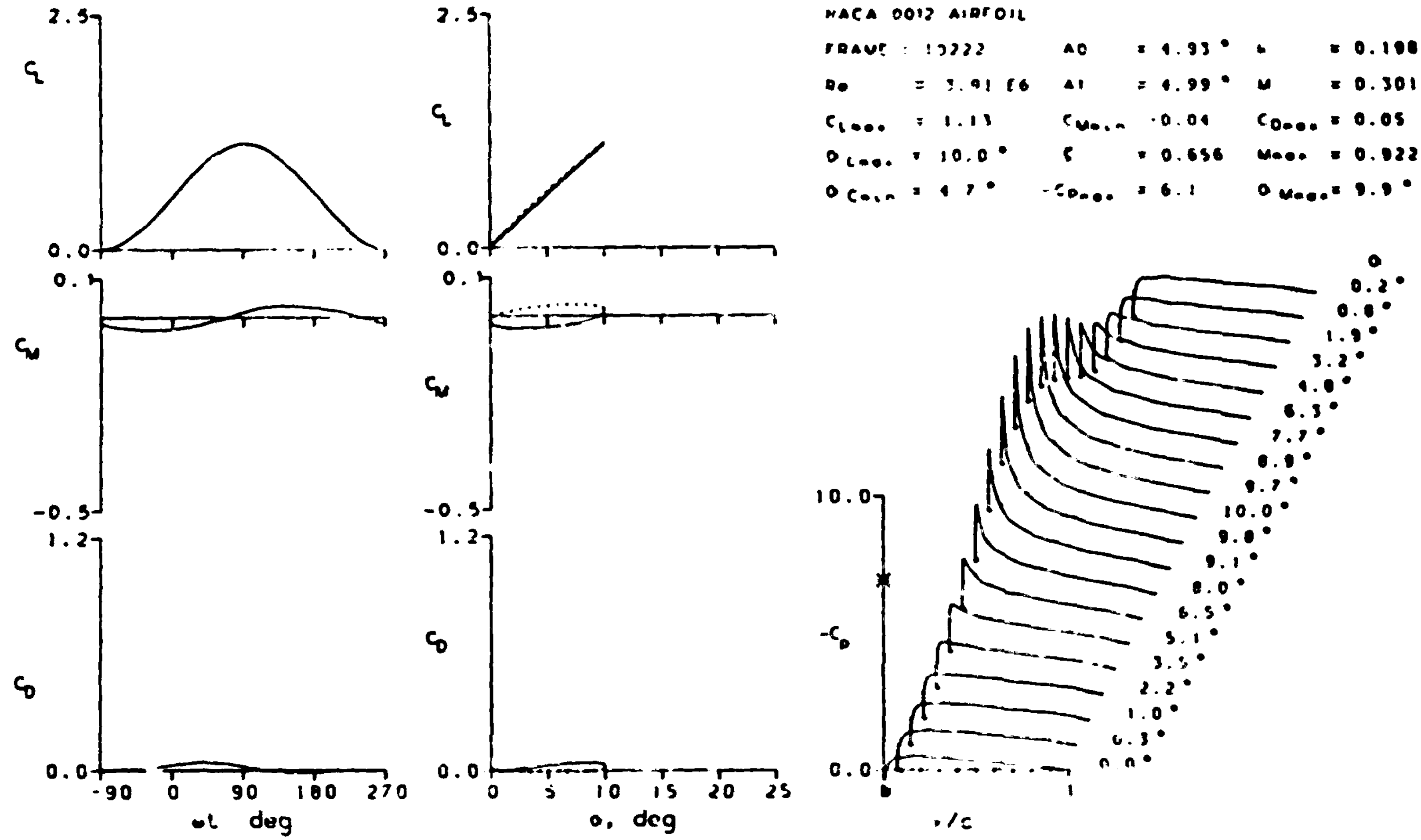

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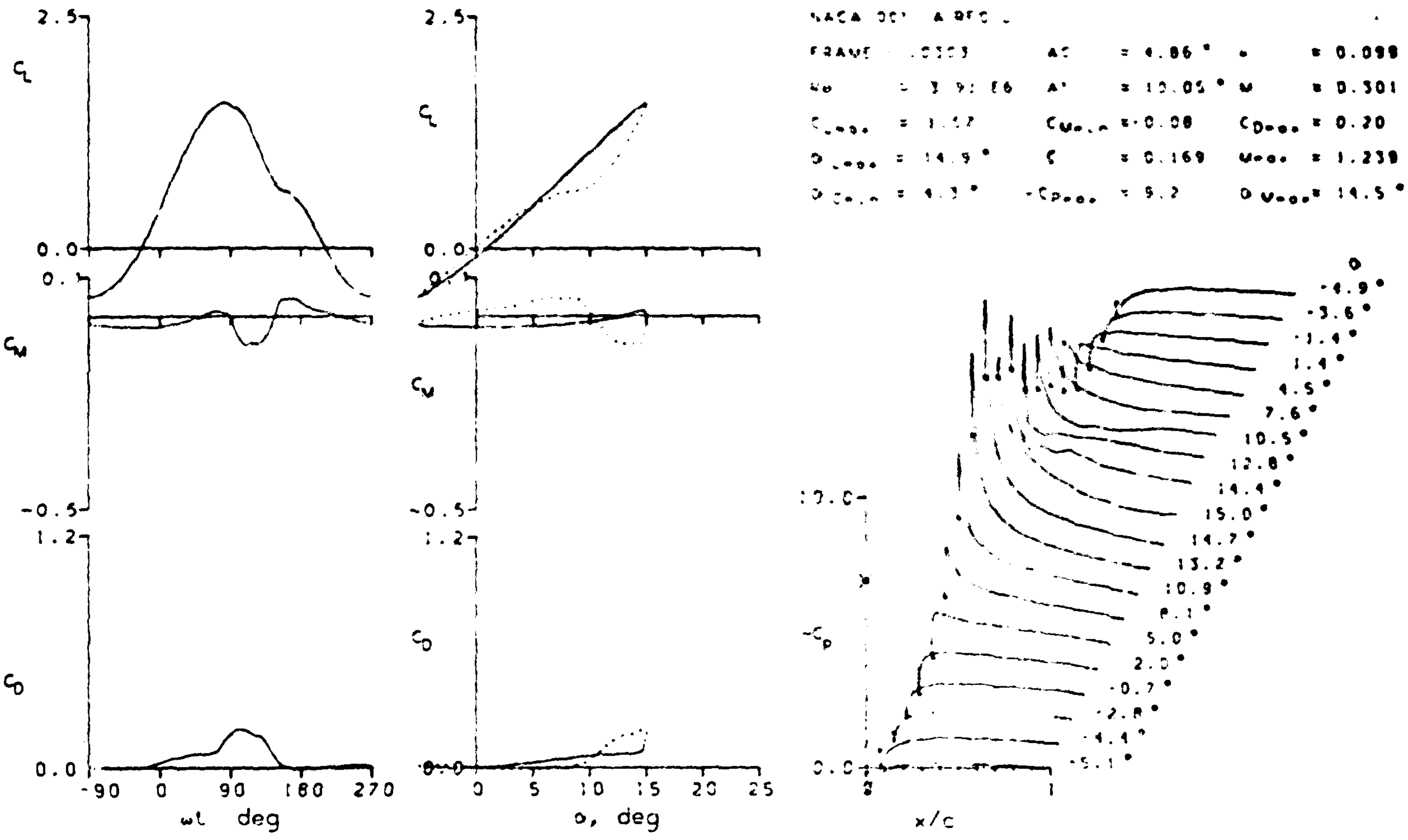

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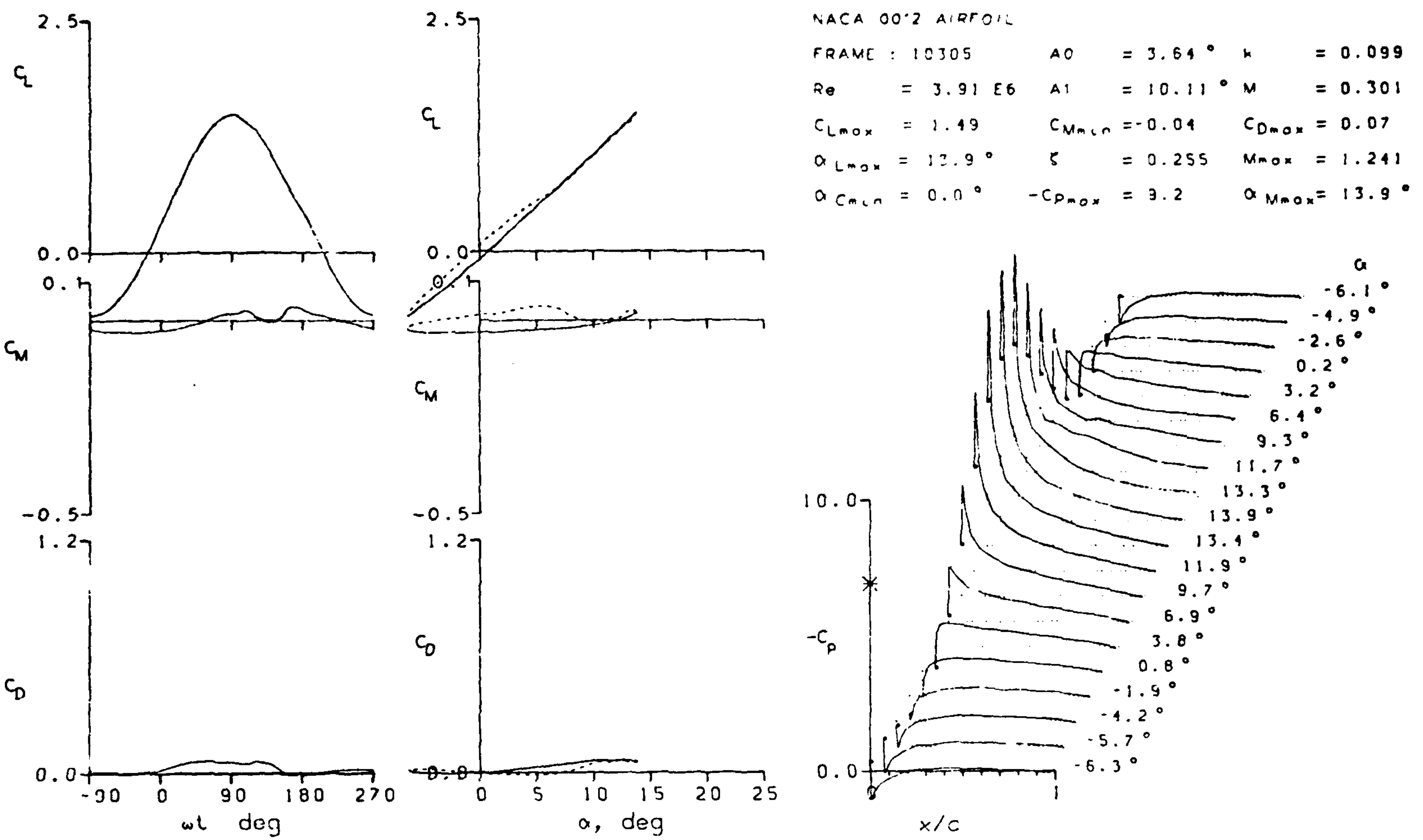

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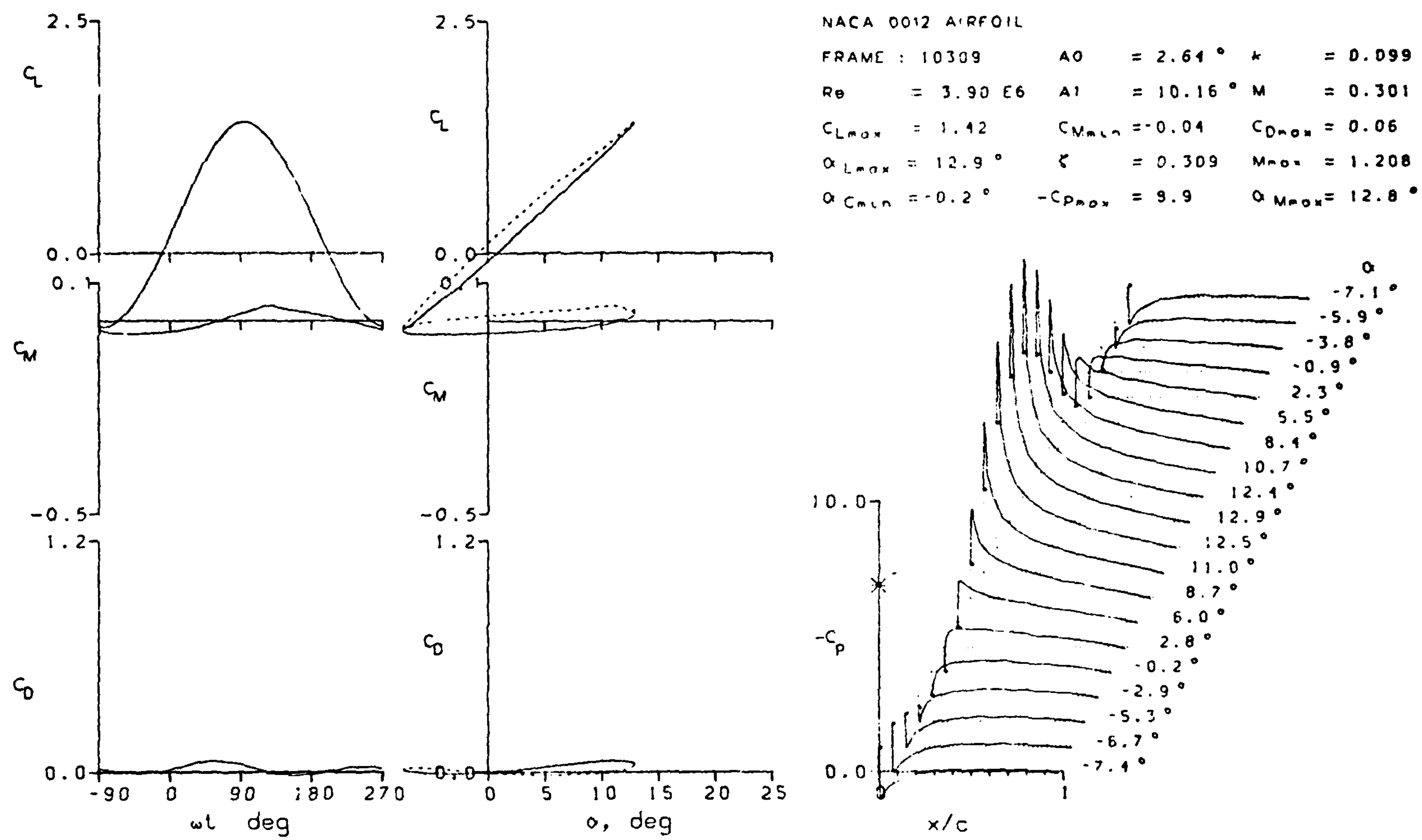

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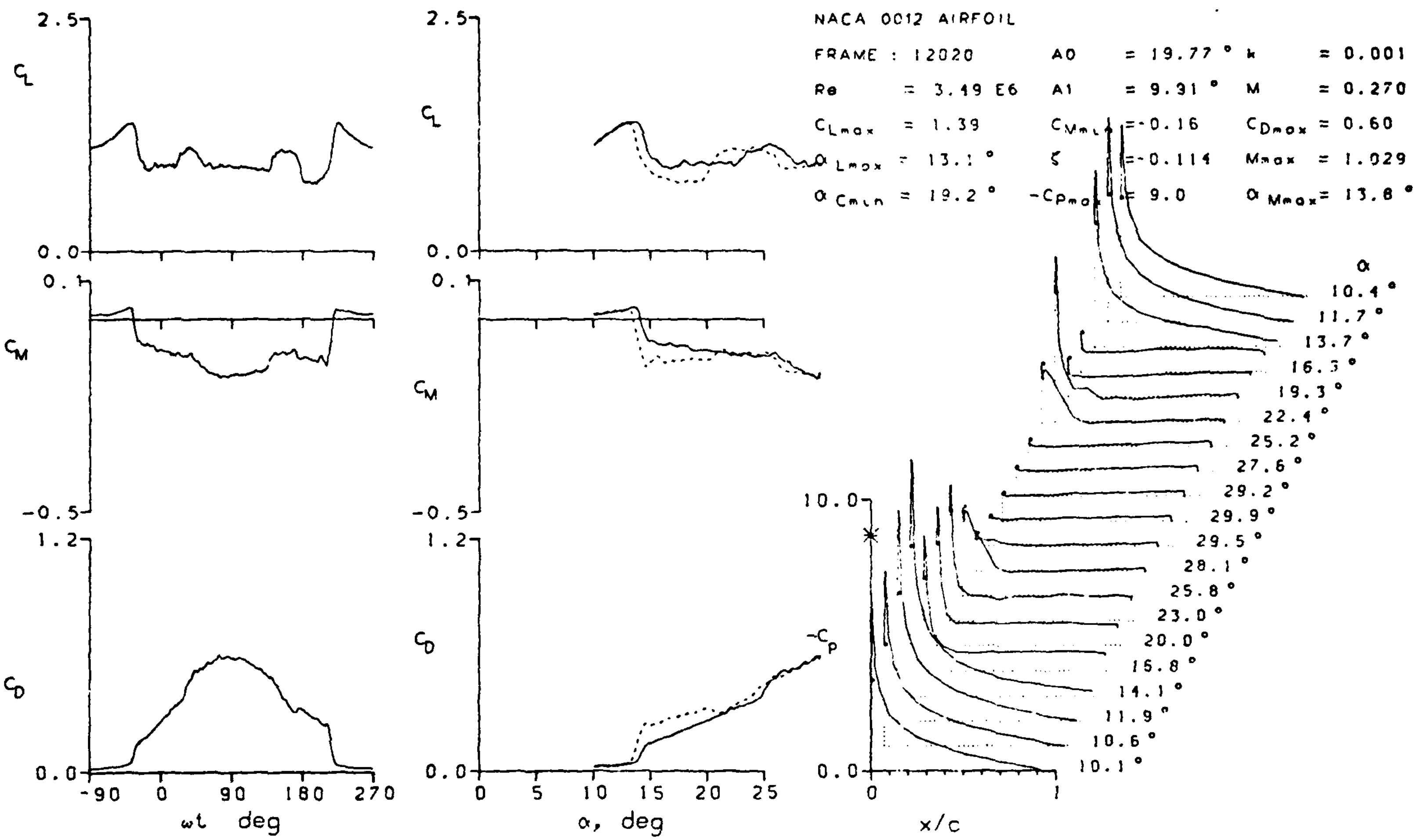

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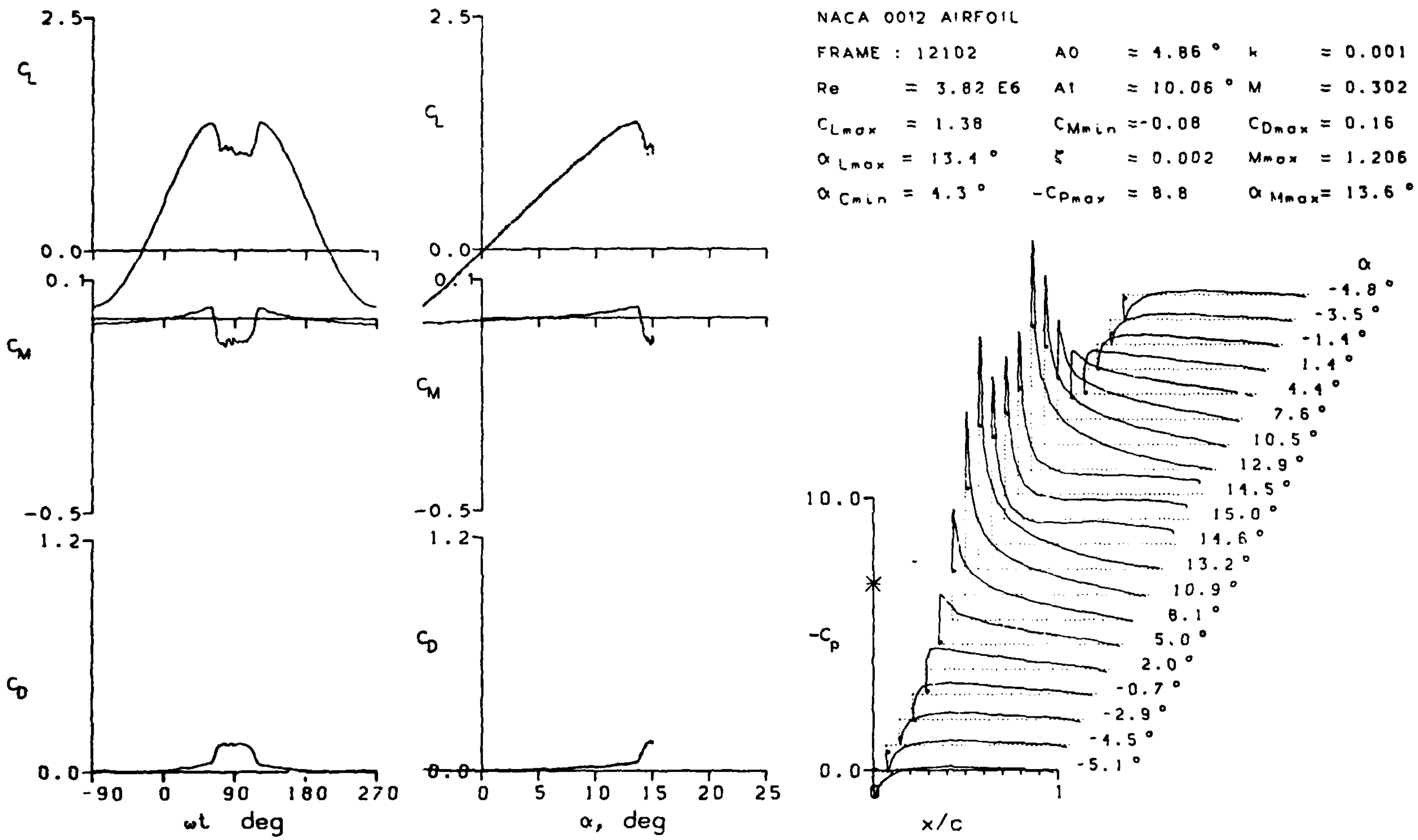

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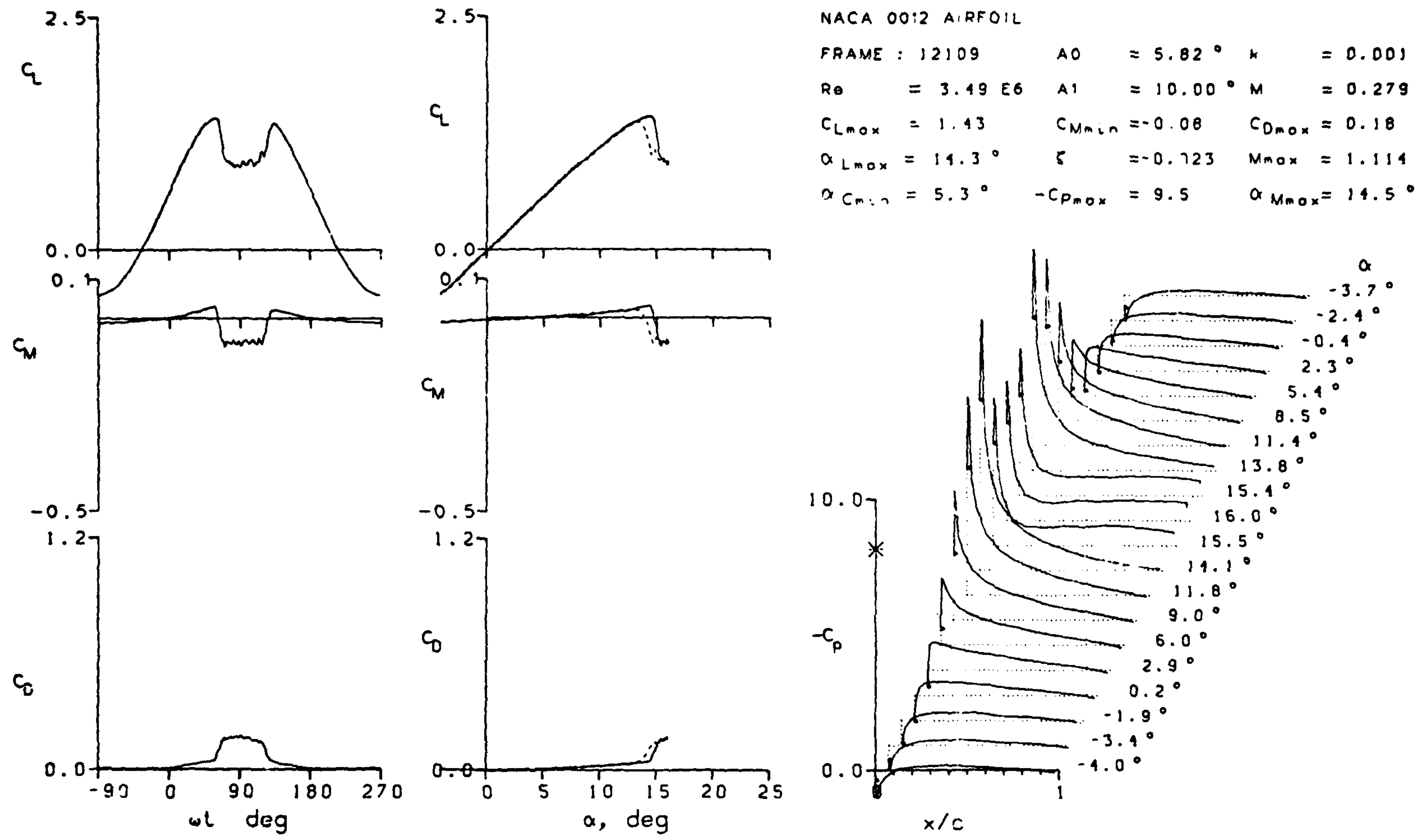

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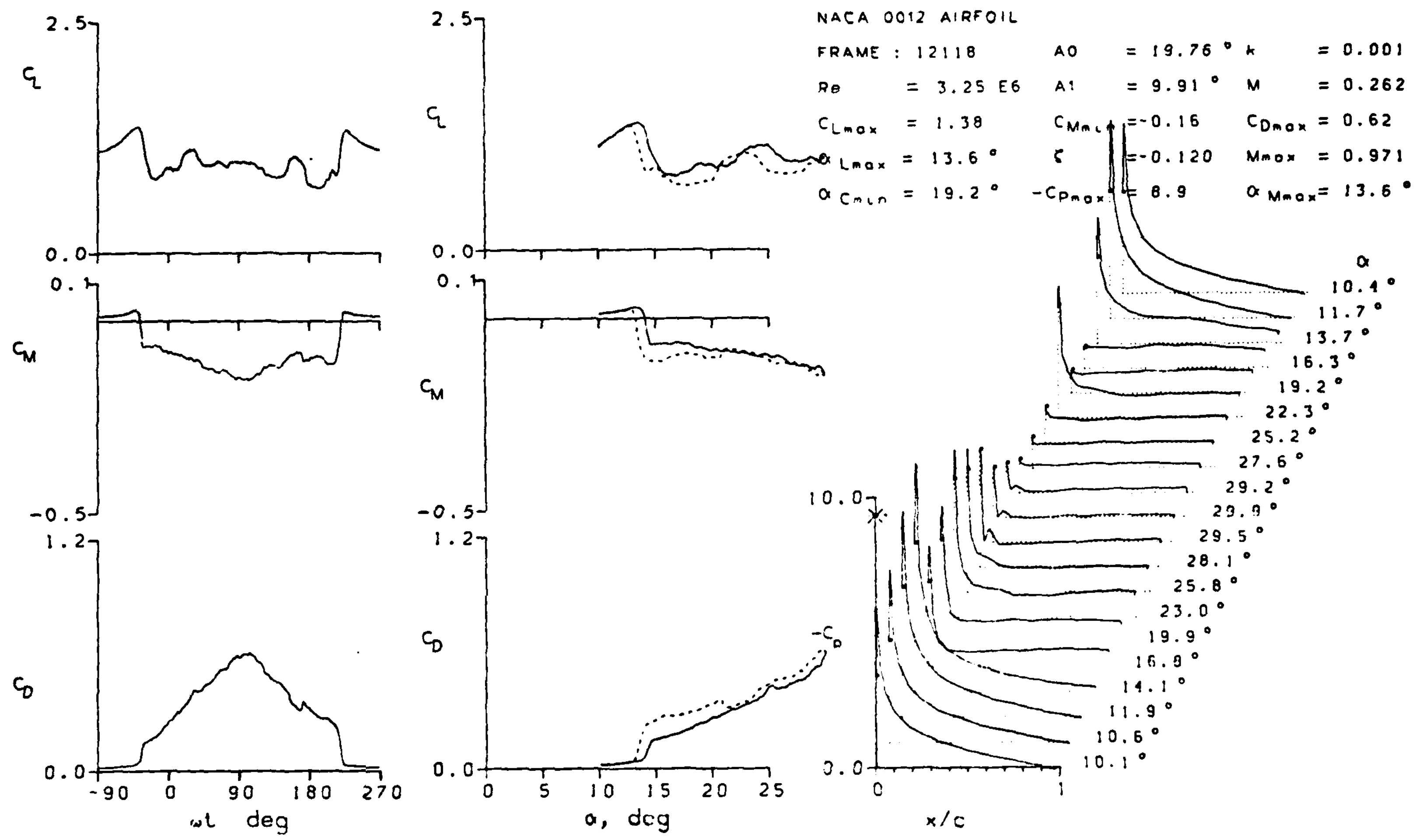

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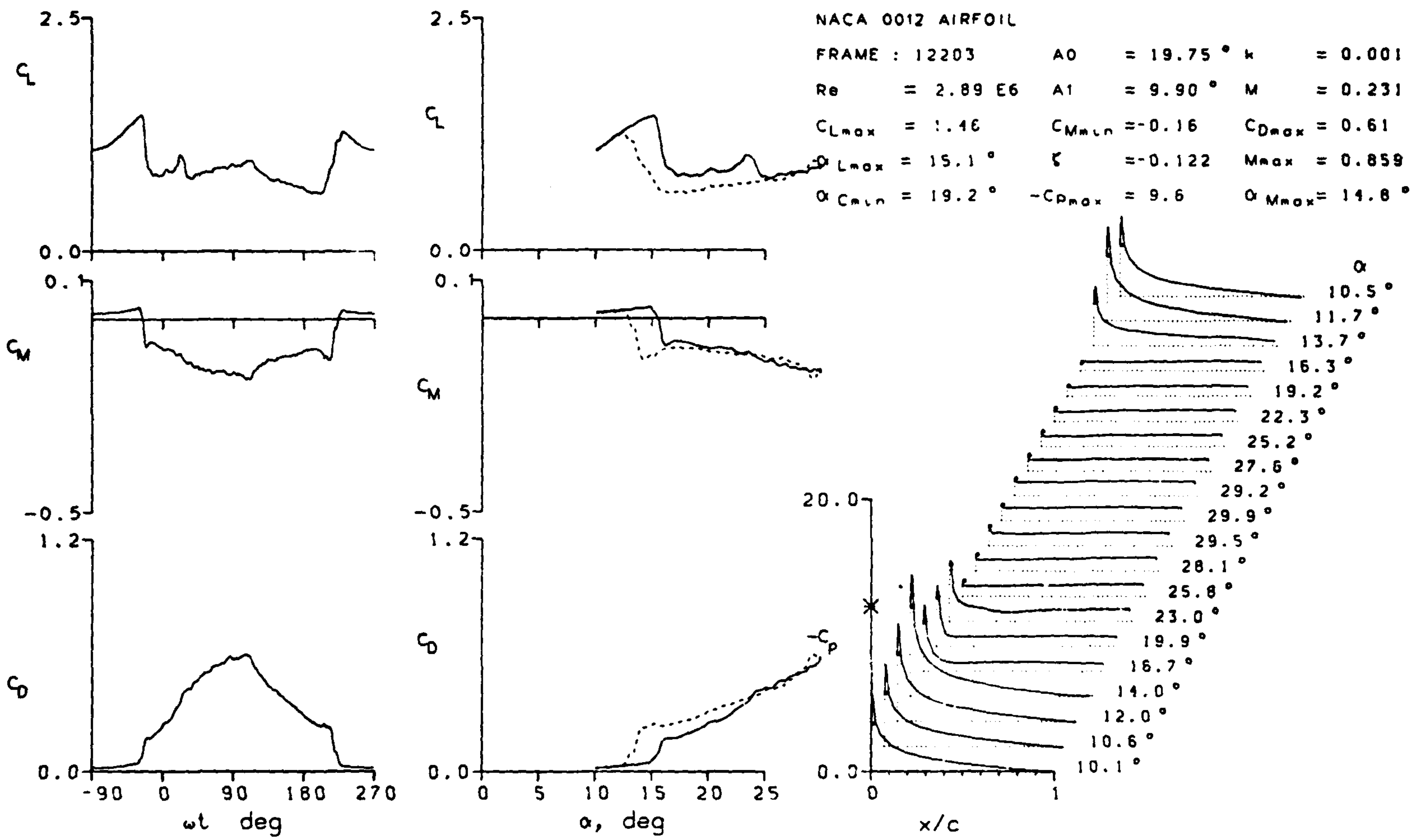

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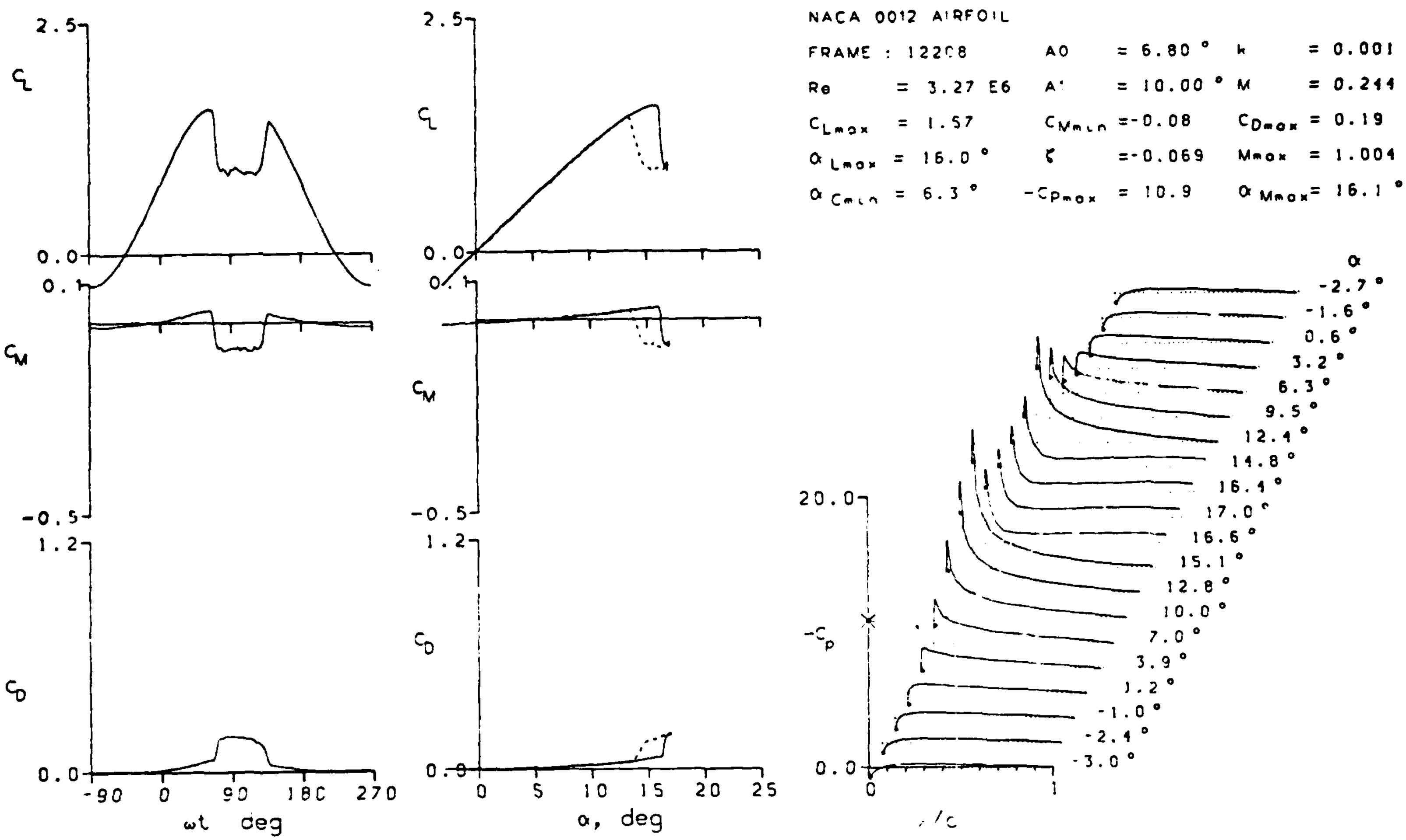

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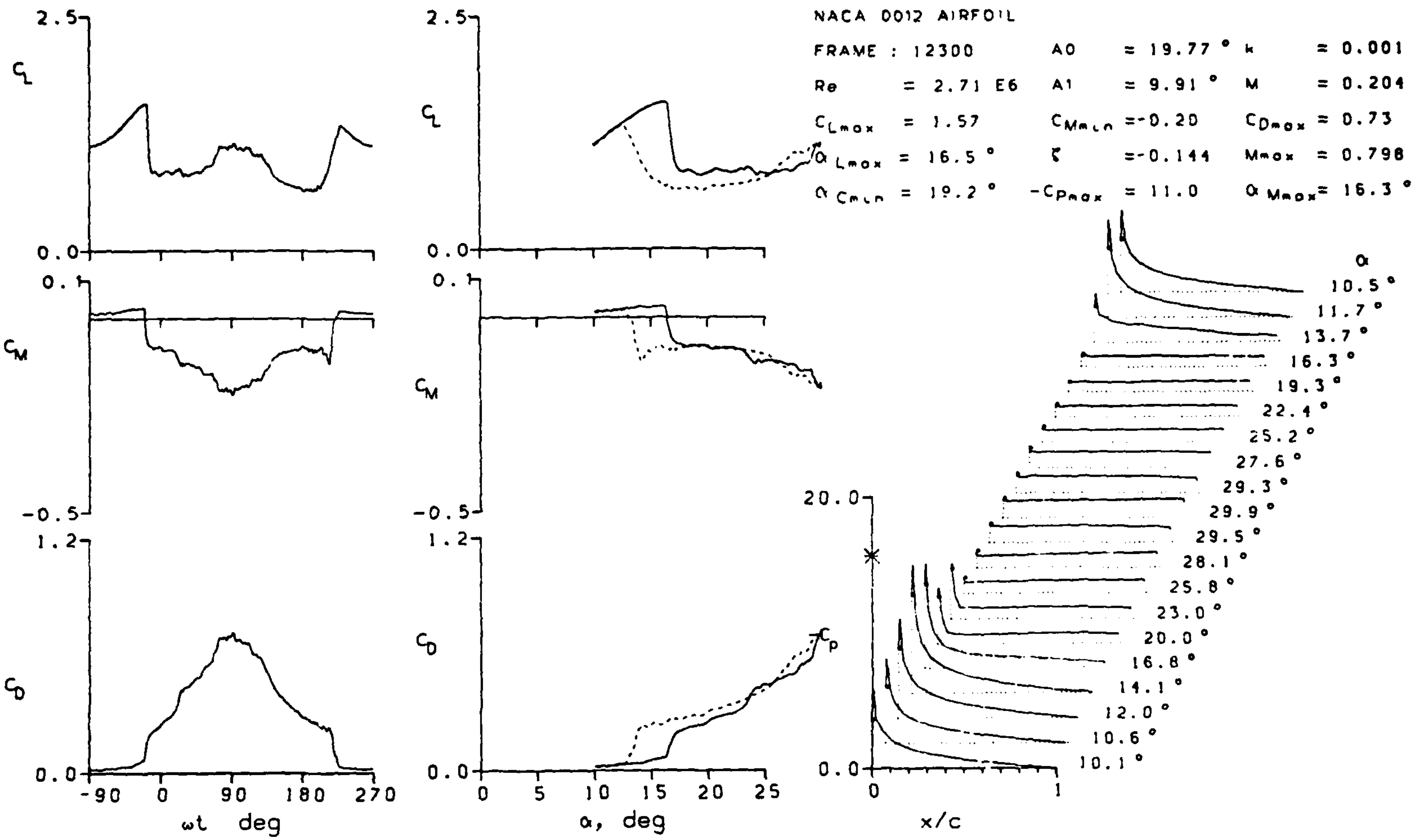

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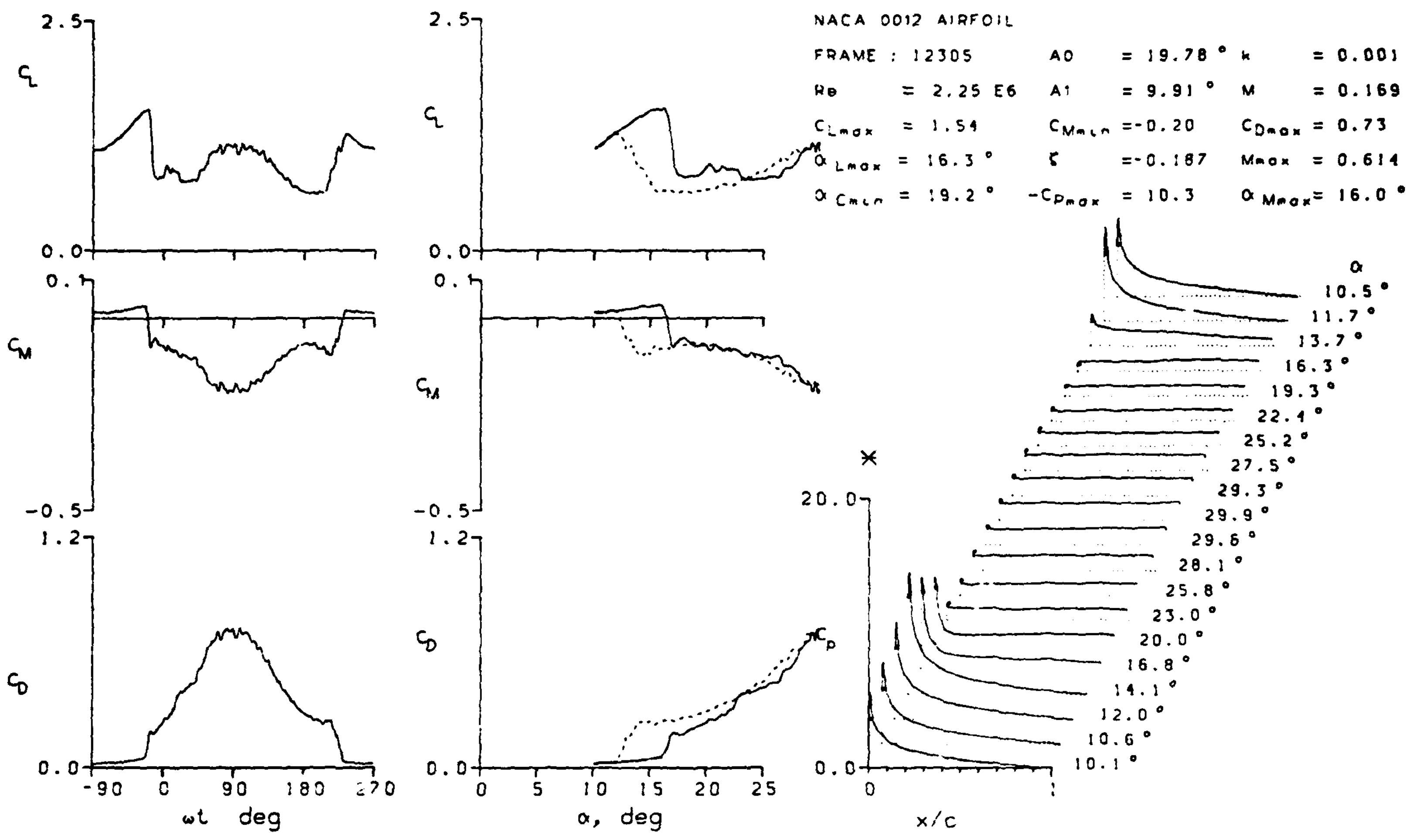

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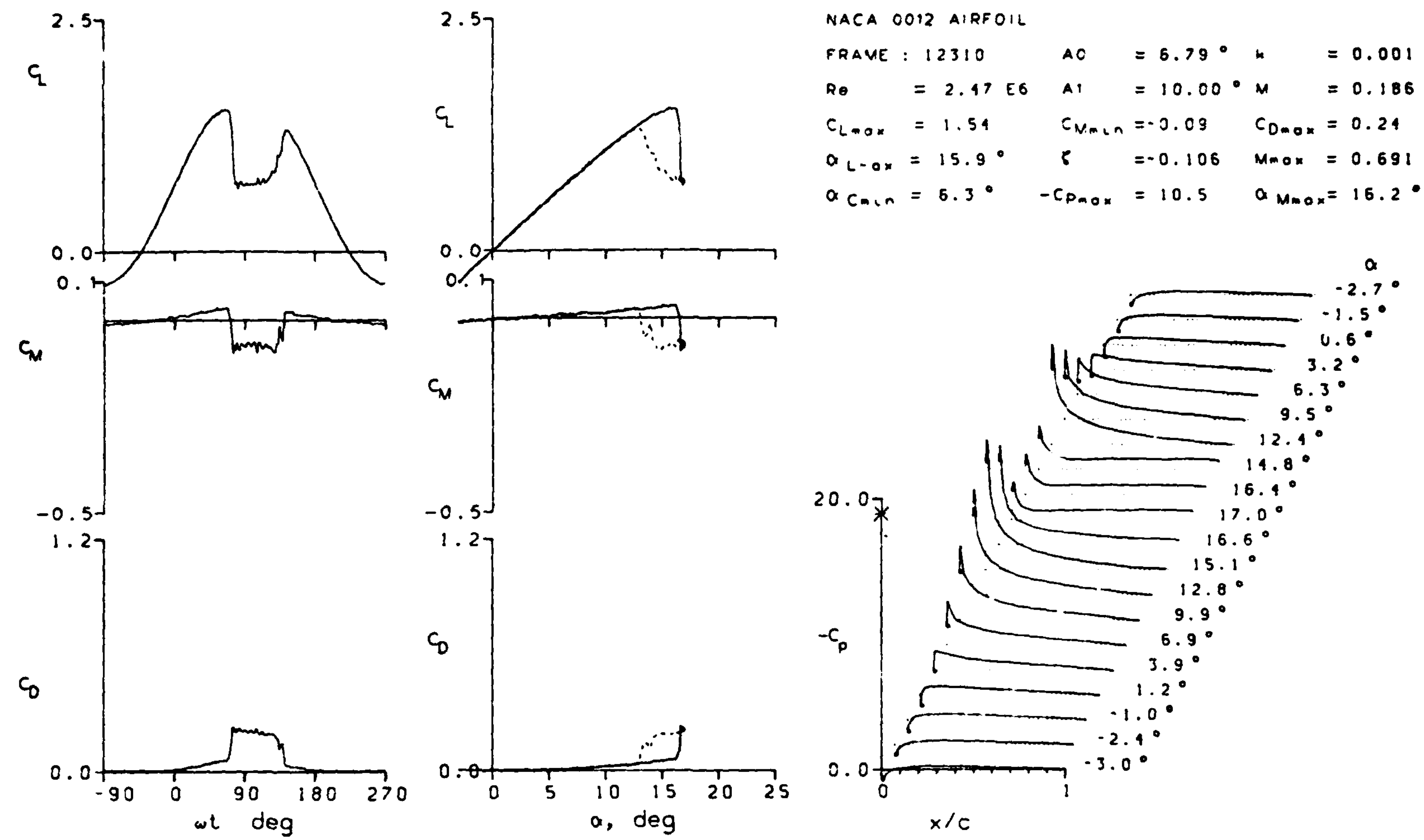

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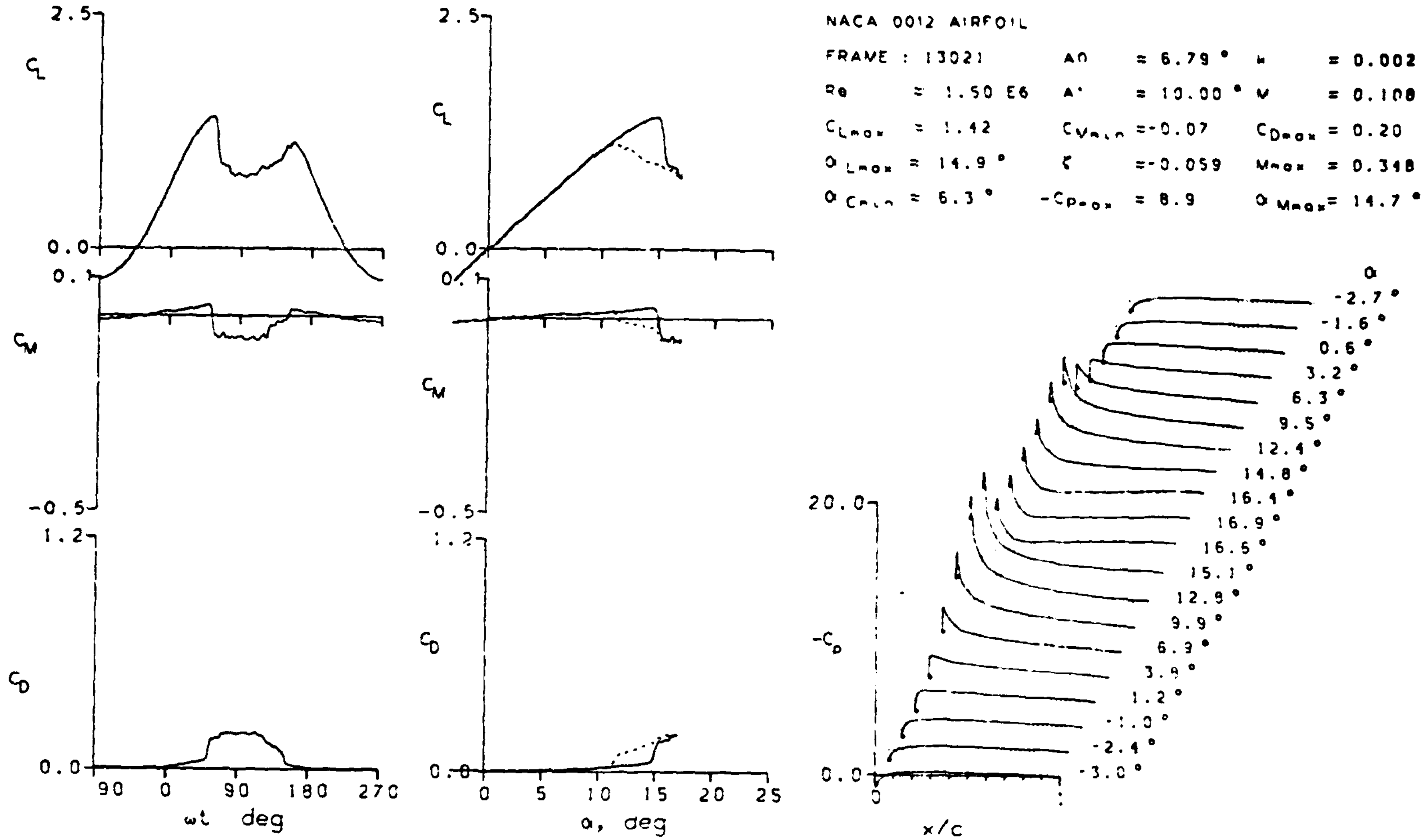

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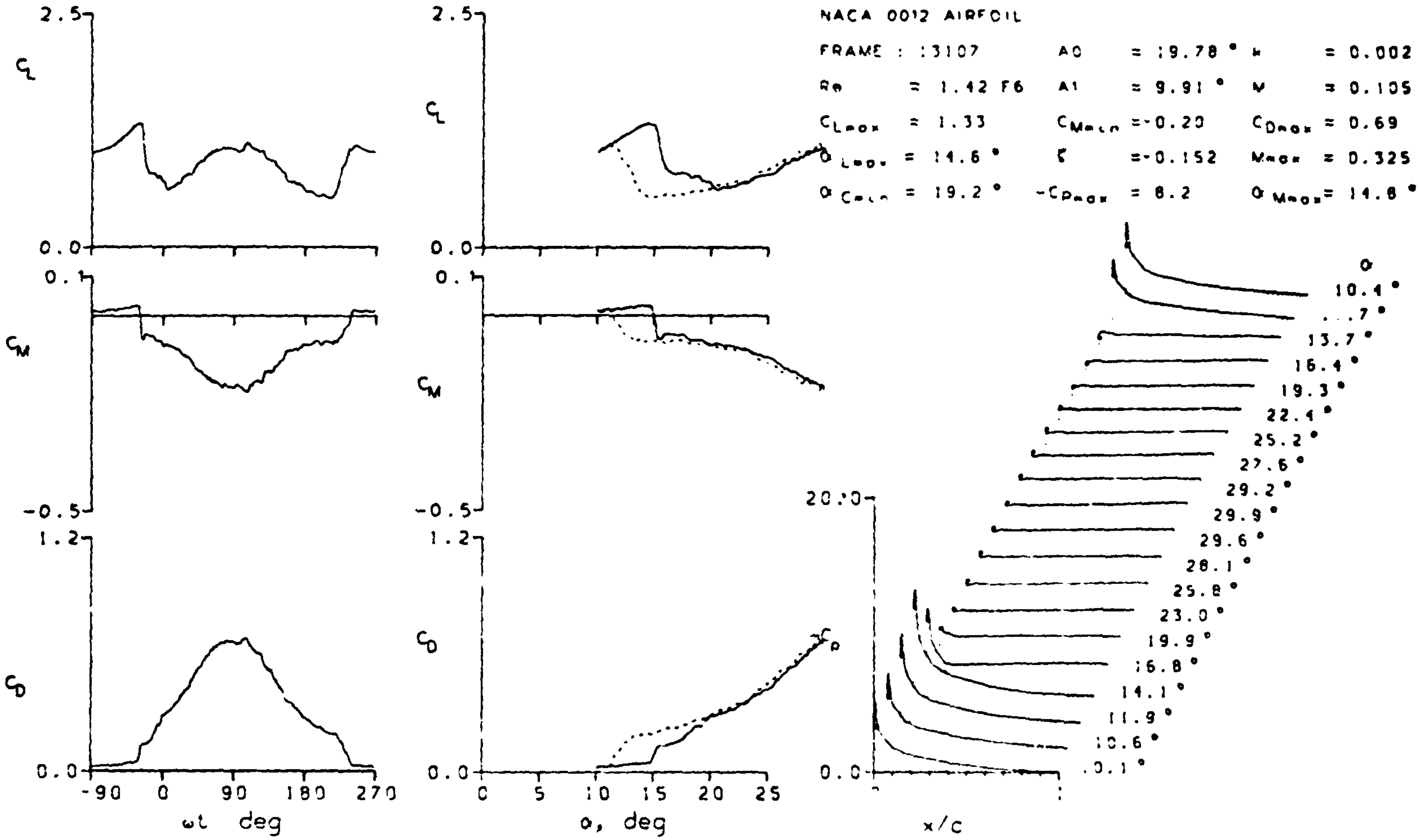

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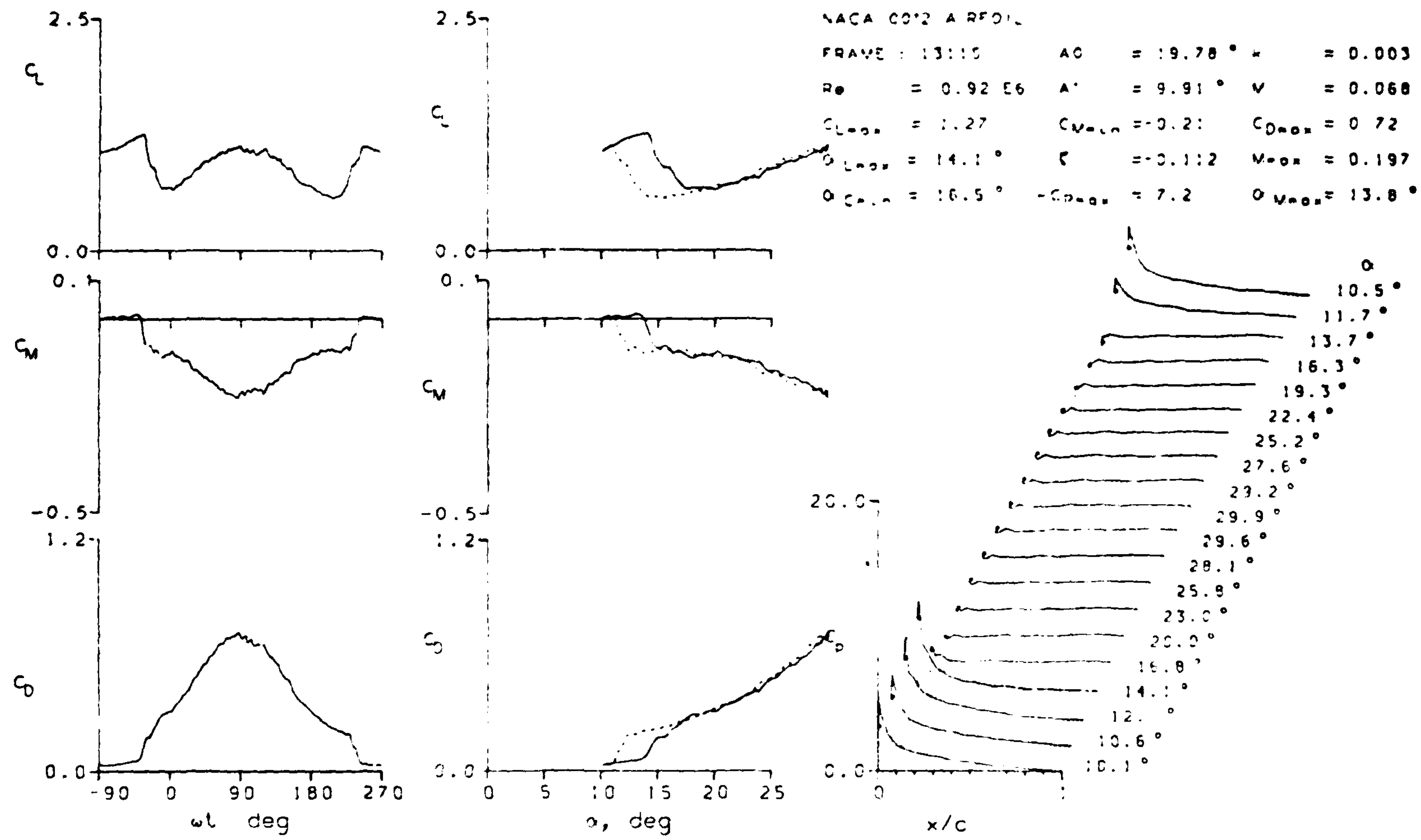

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AD-A121 598 AN EXPERIMENTAL STUDY OF DYNAMIC STALL ON ADVANCED AIRFOIL SECTIONS VOLUM..(U) NATIONAL AERONUATICS AND SPACE ADMINISTRATION MOFFETT FIELD C..

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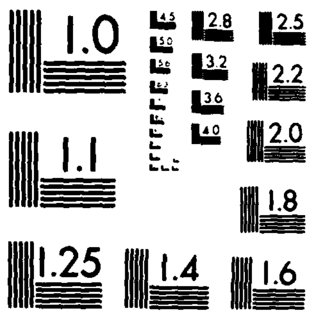

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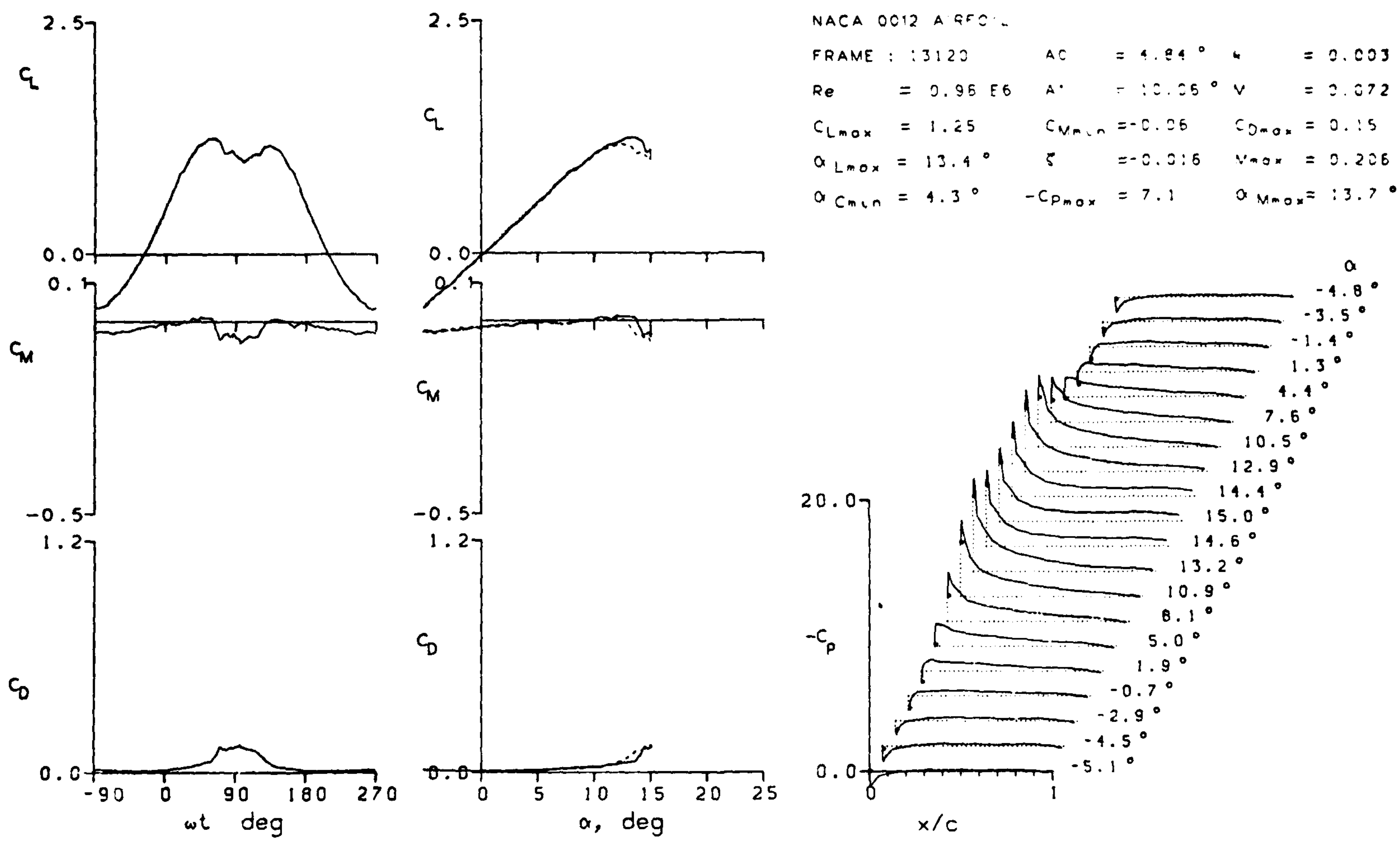

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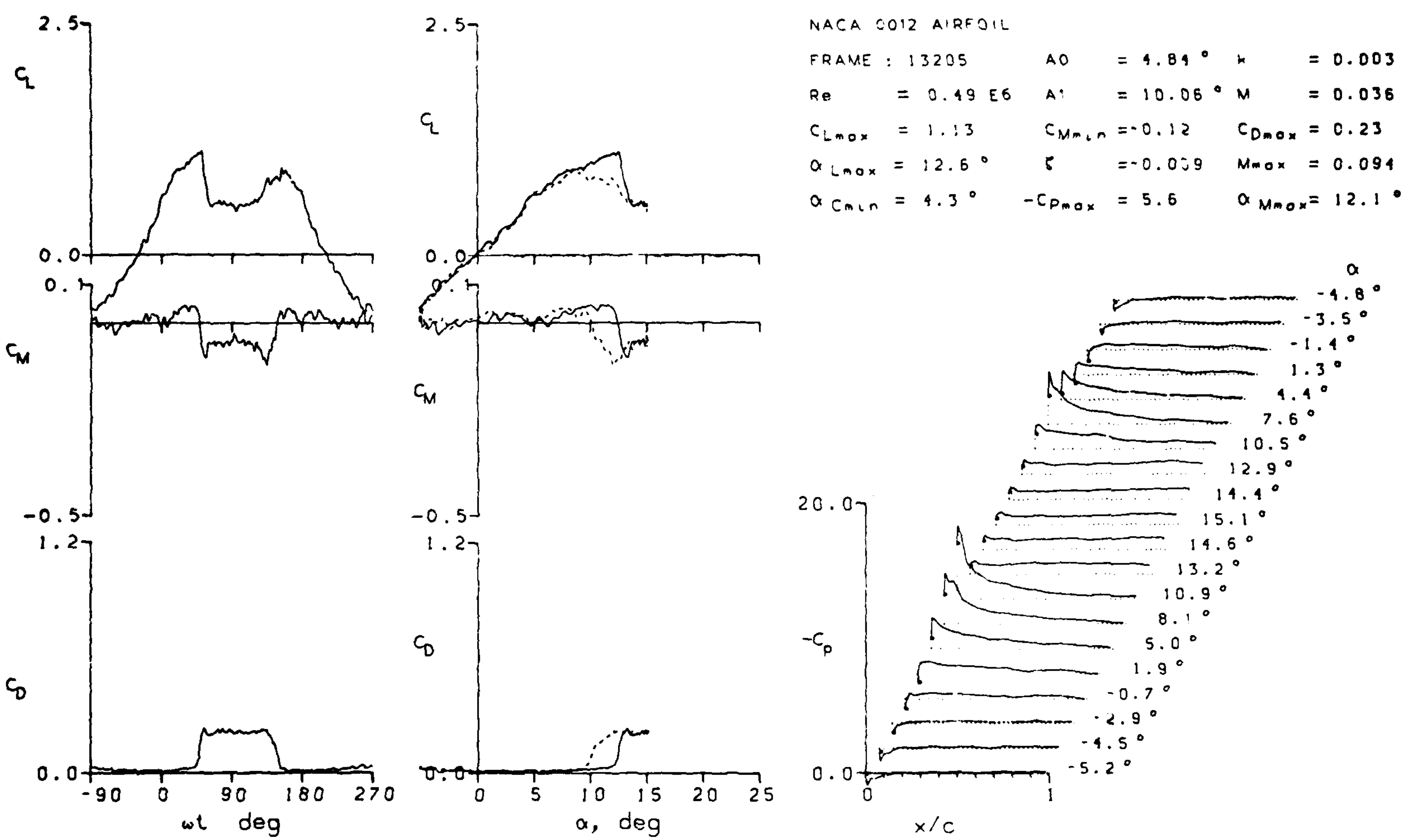

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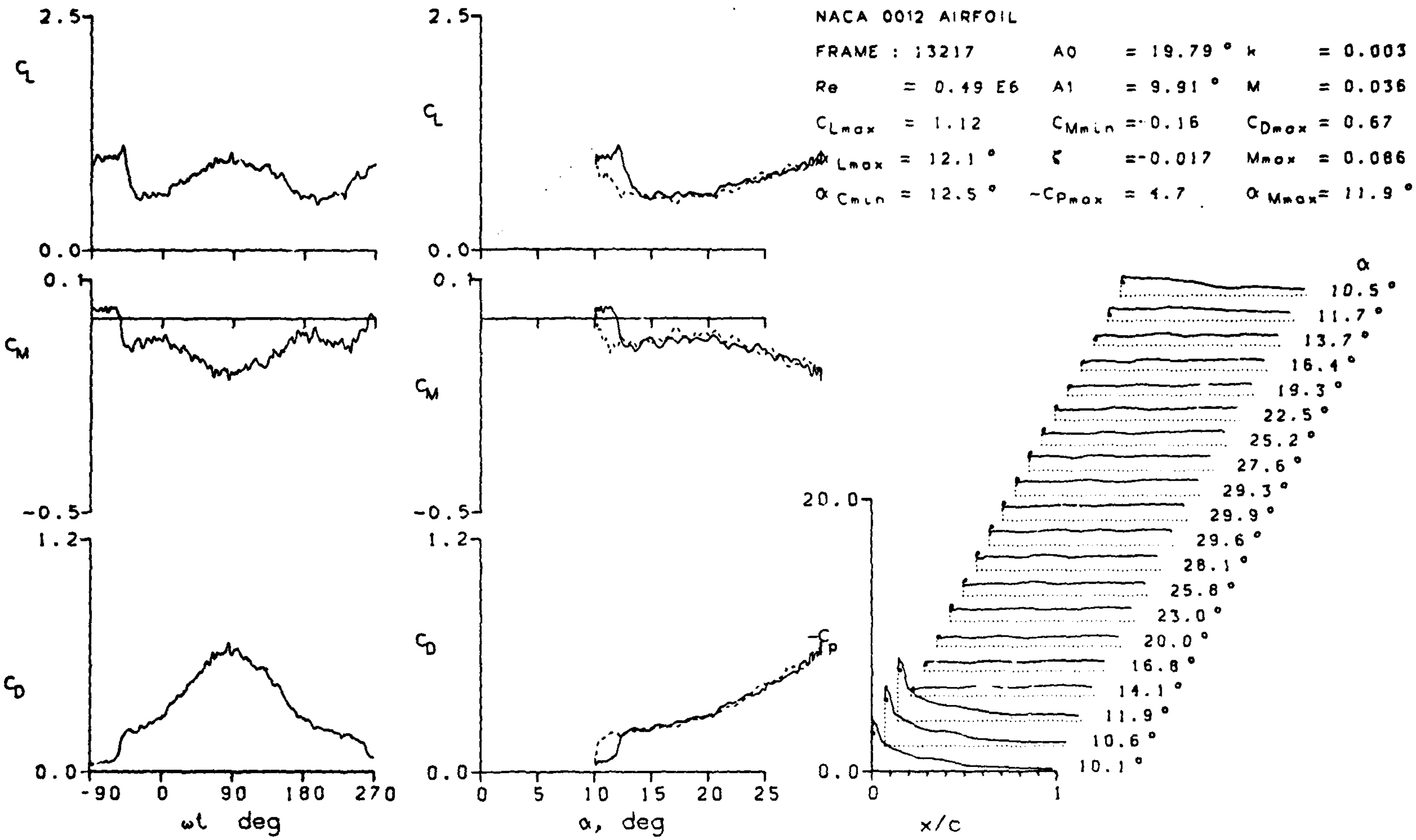

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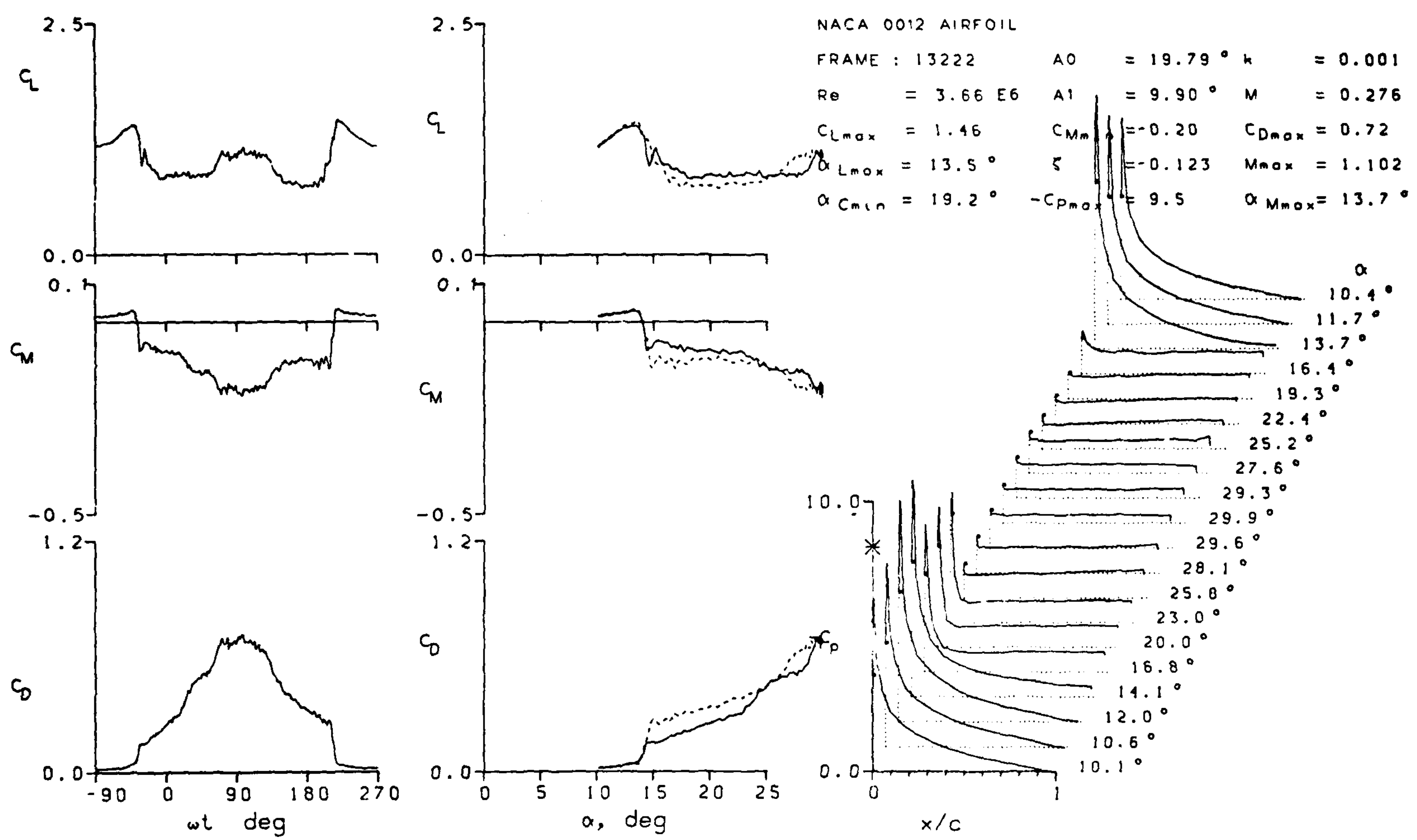

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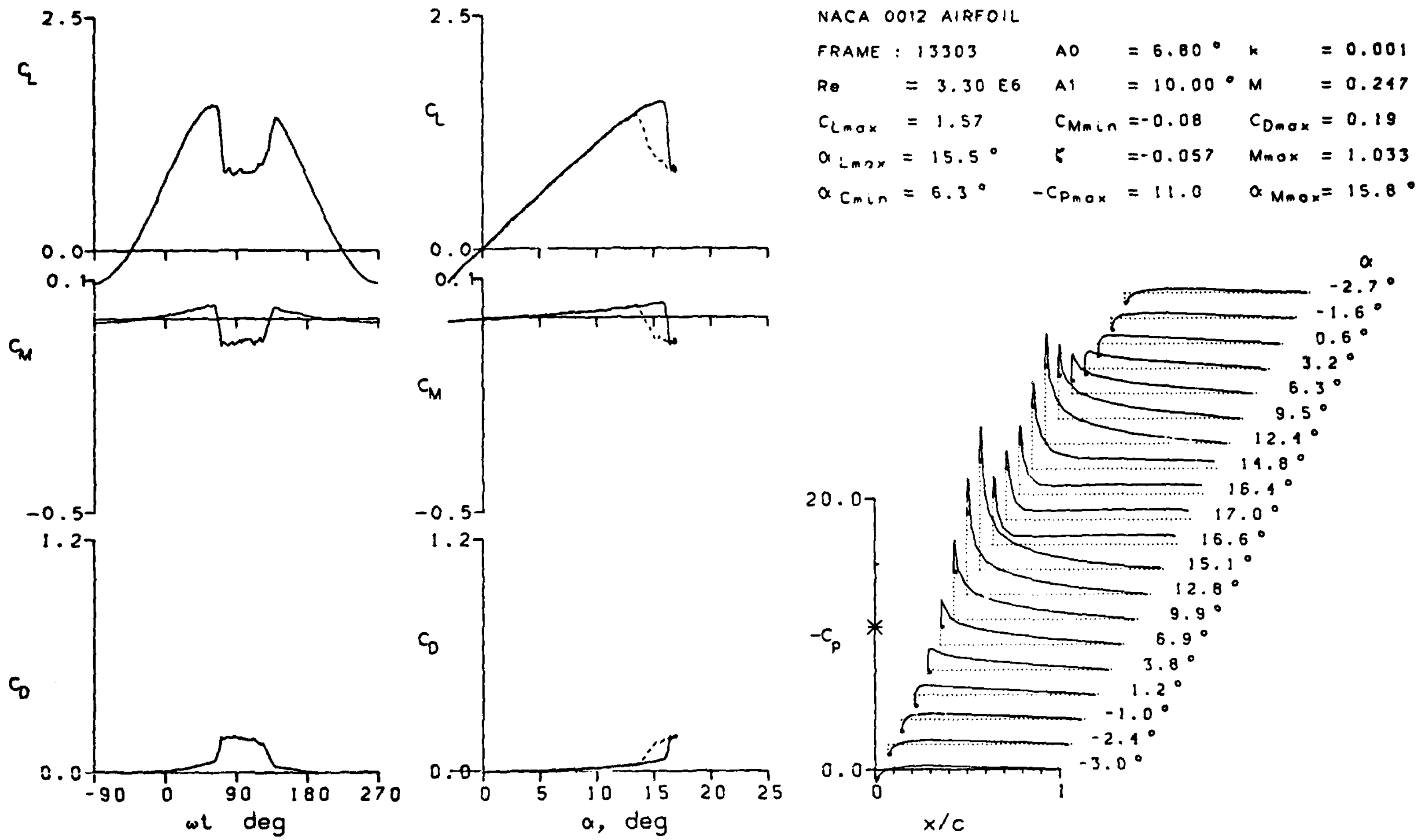

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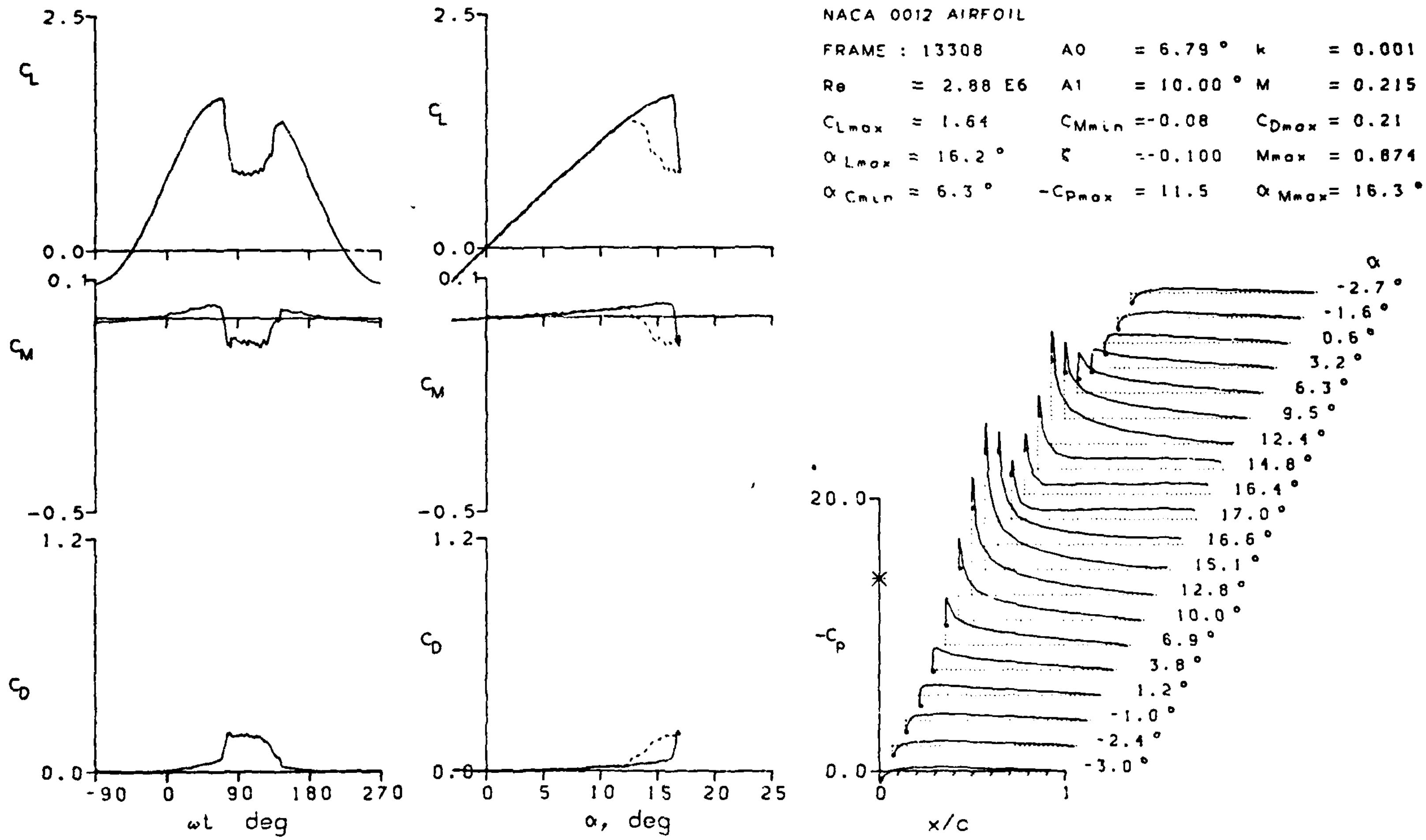

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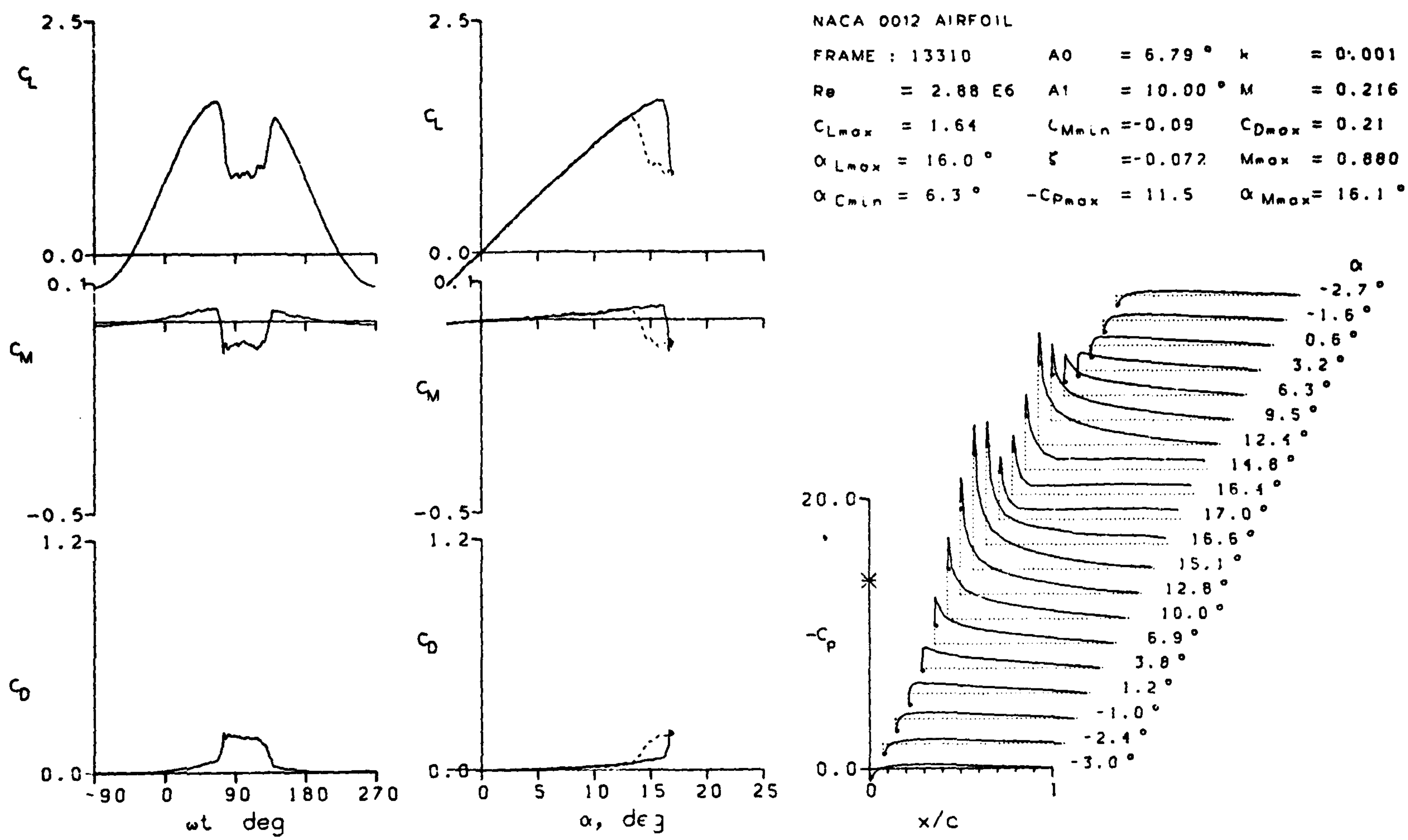

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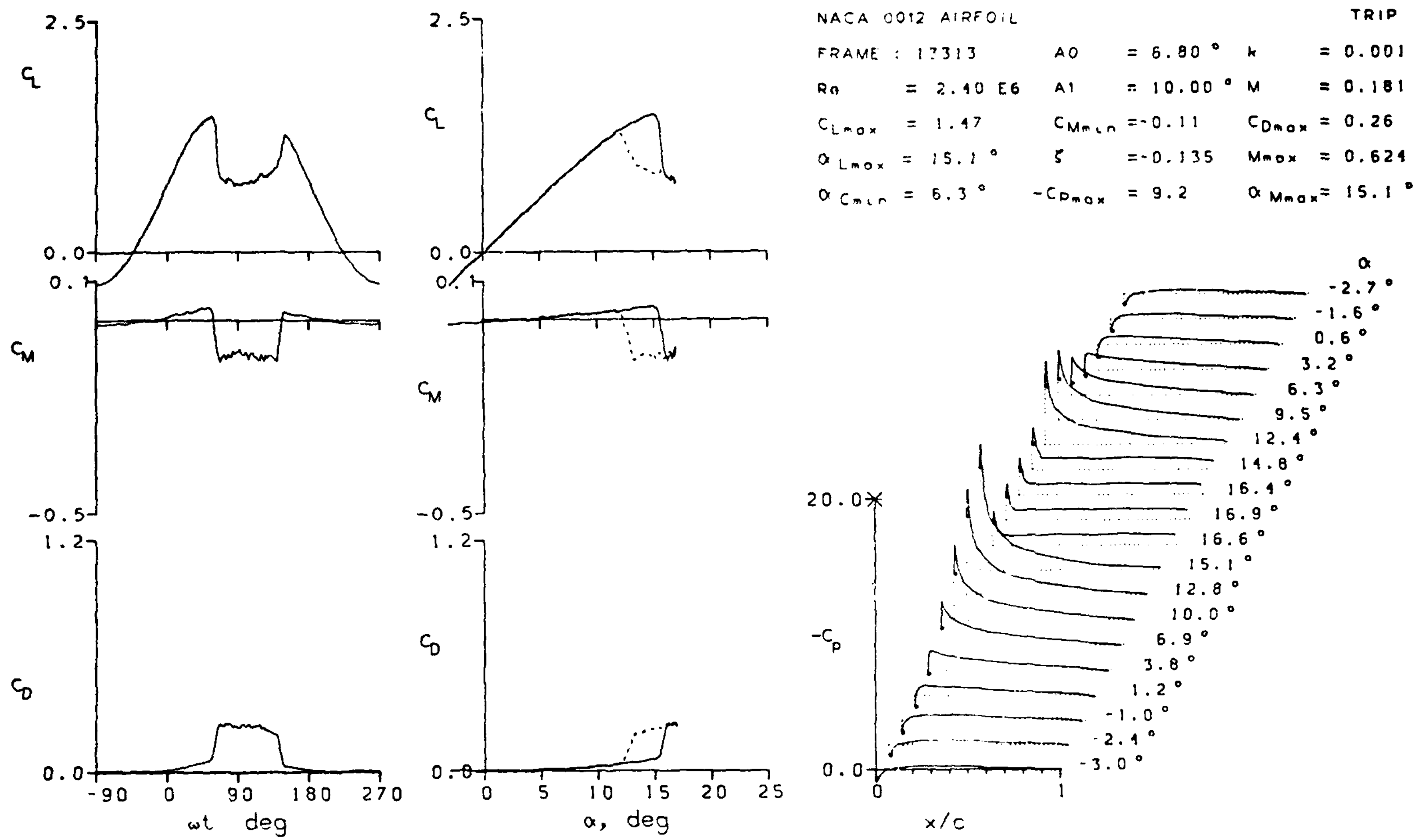

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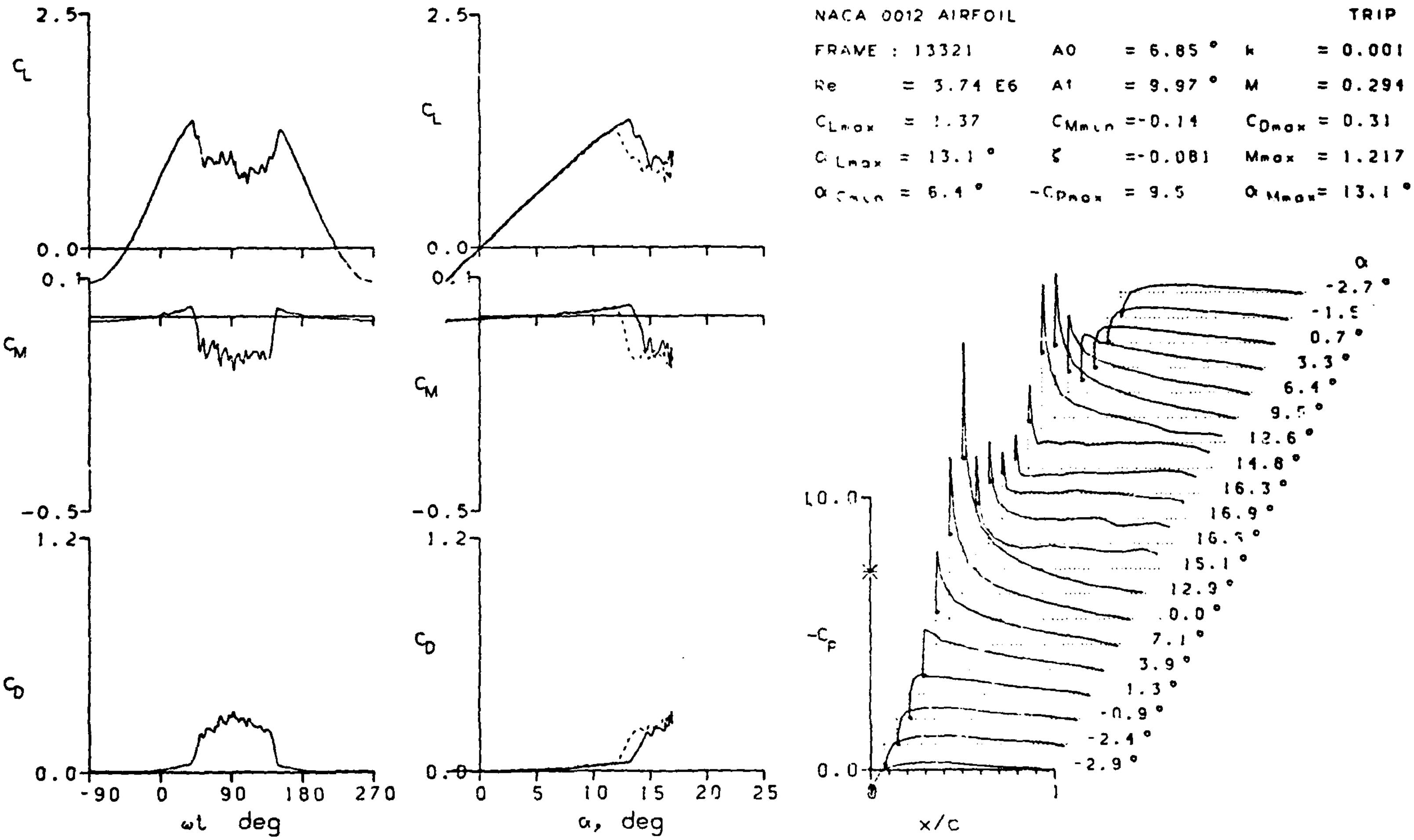

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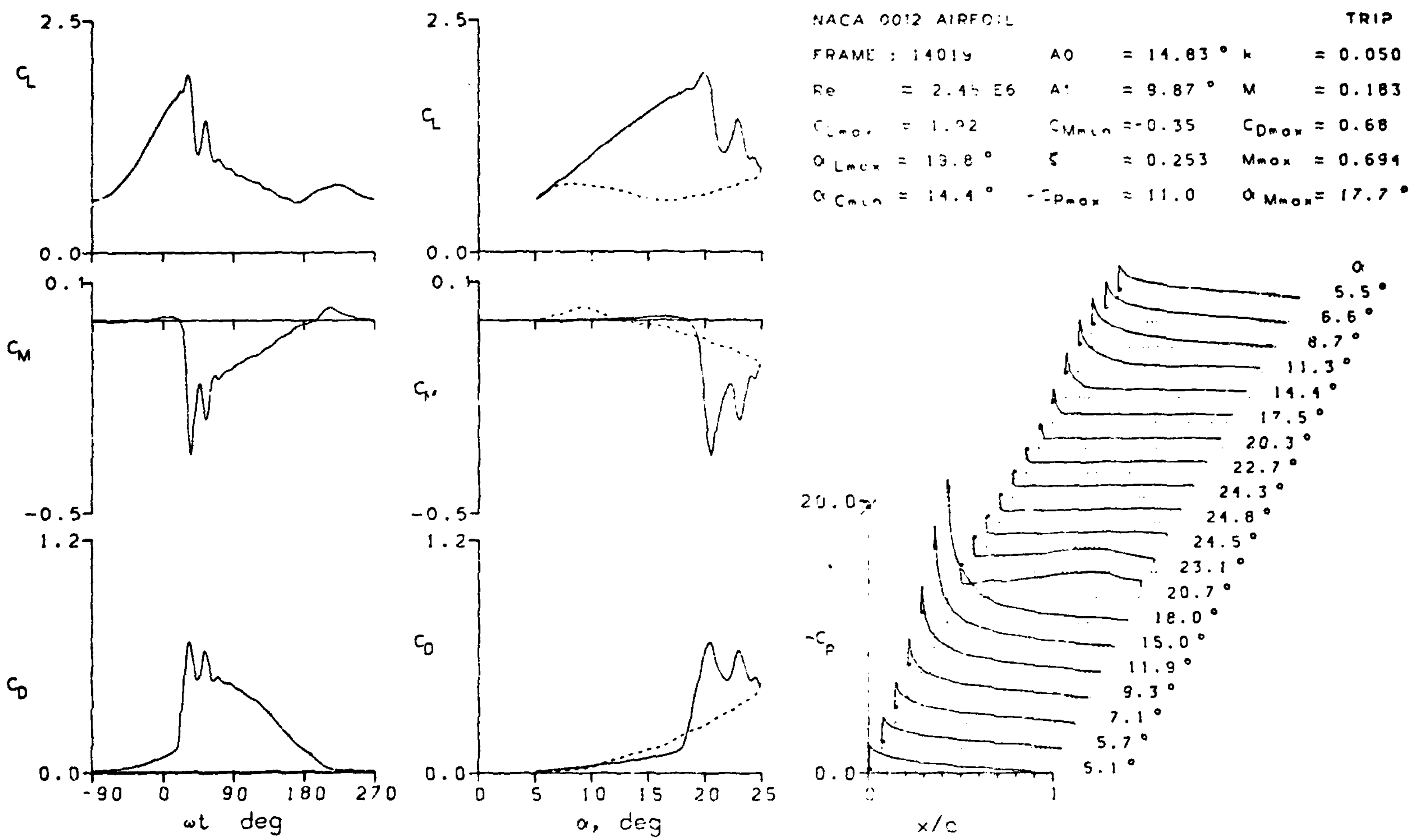

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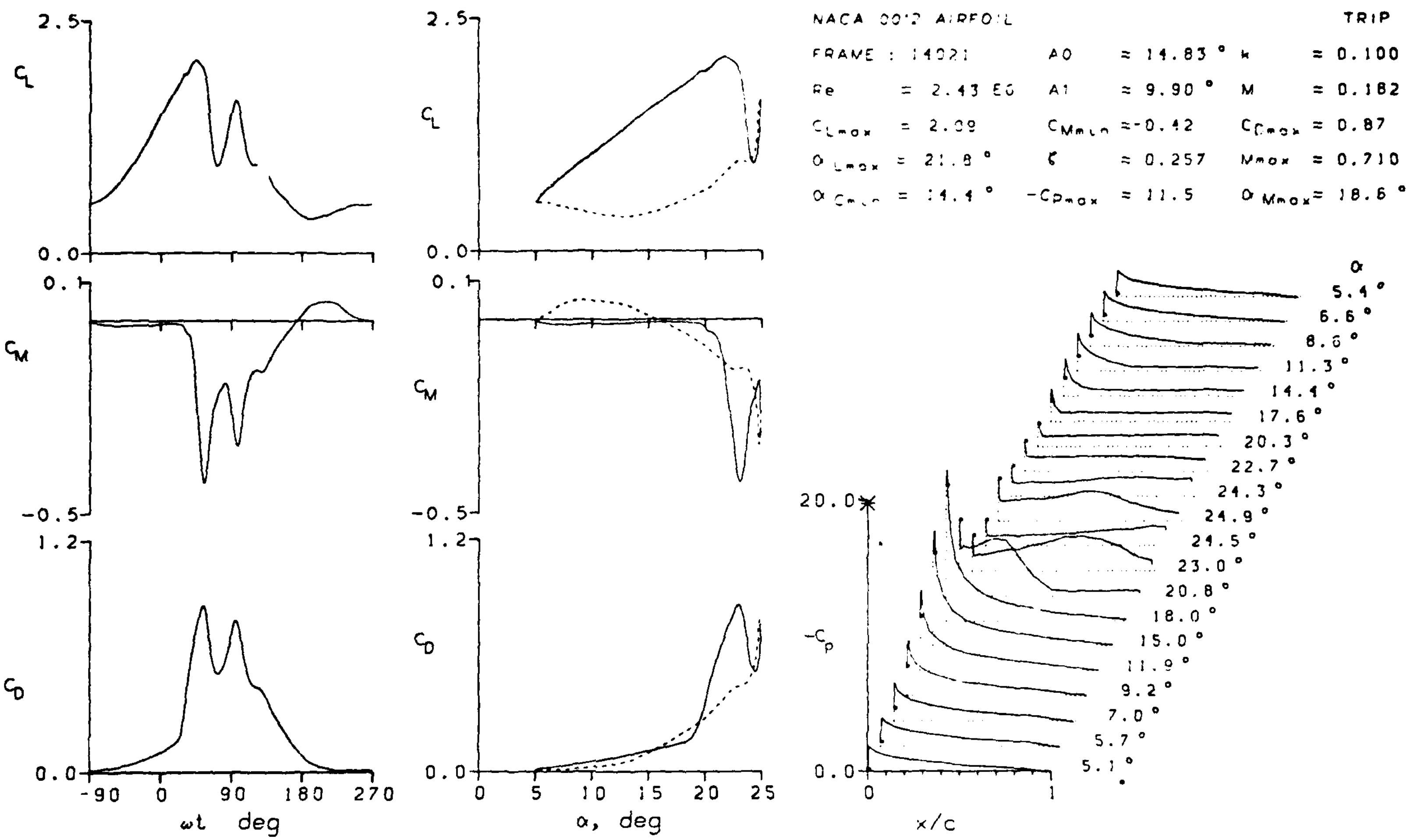

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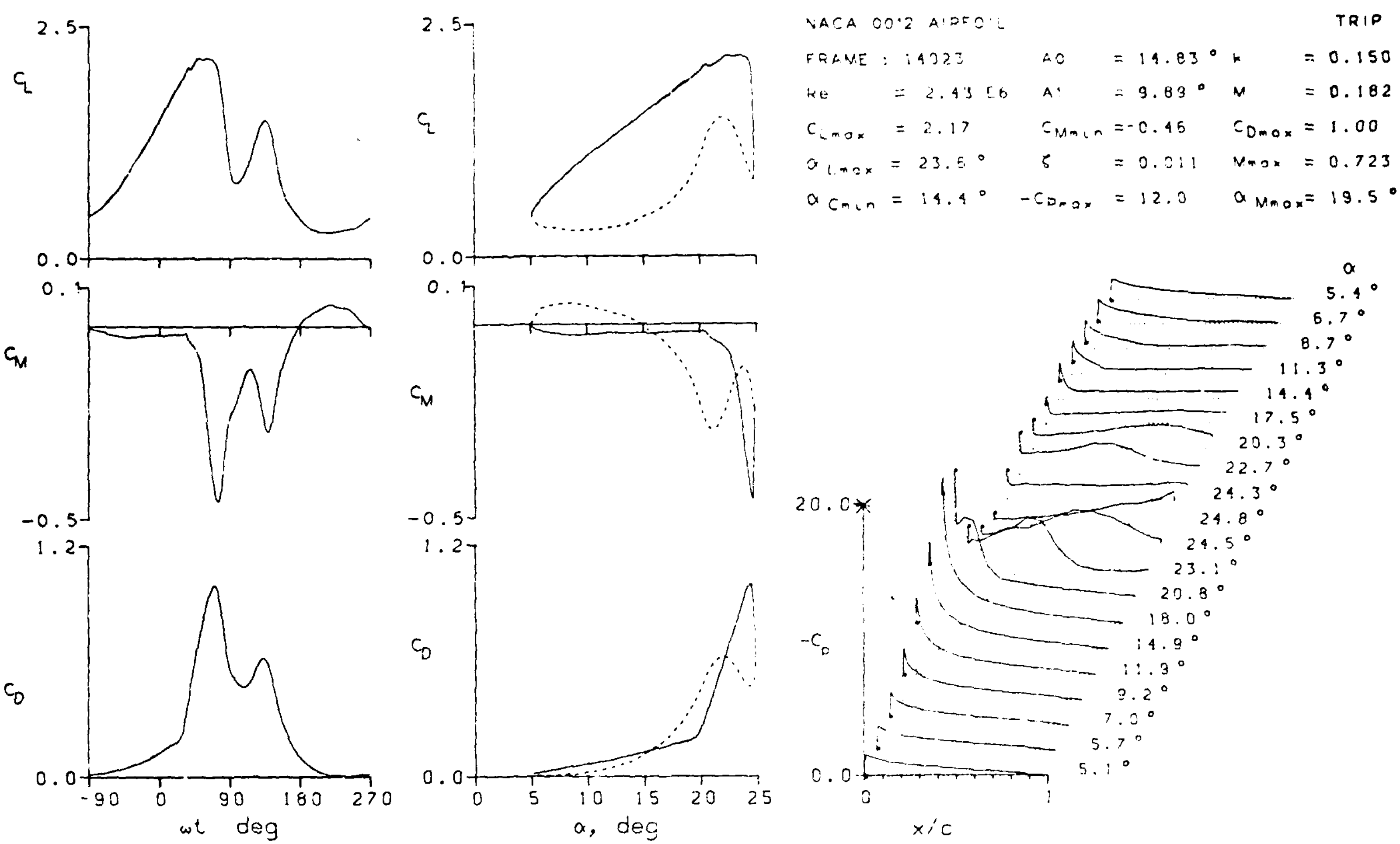

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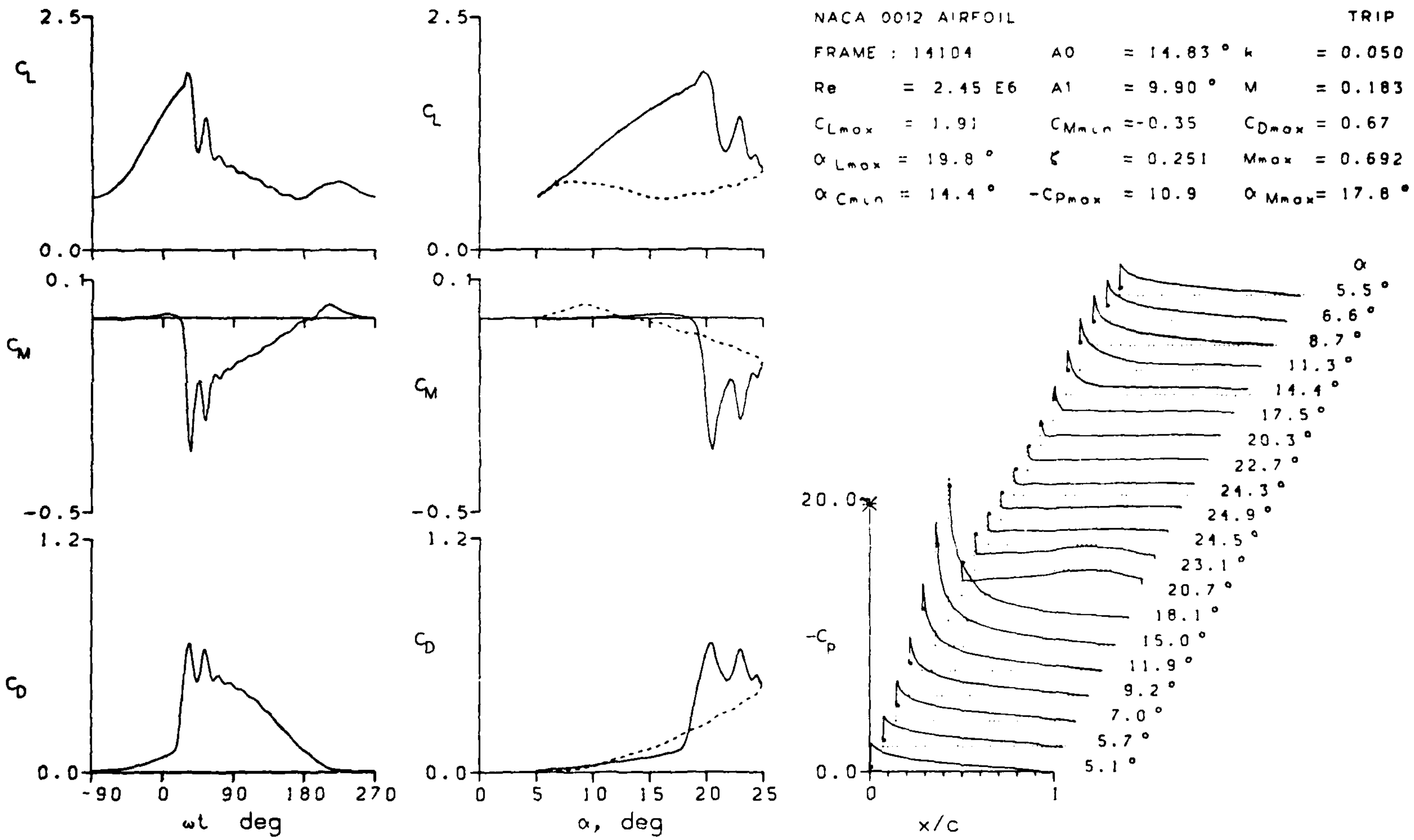

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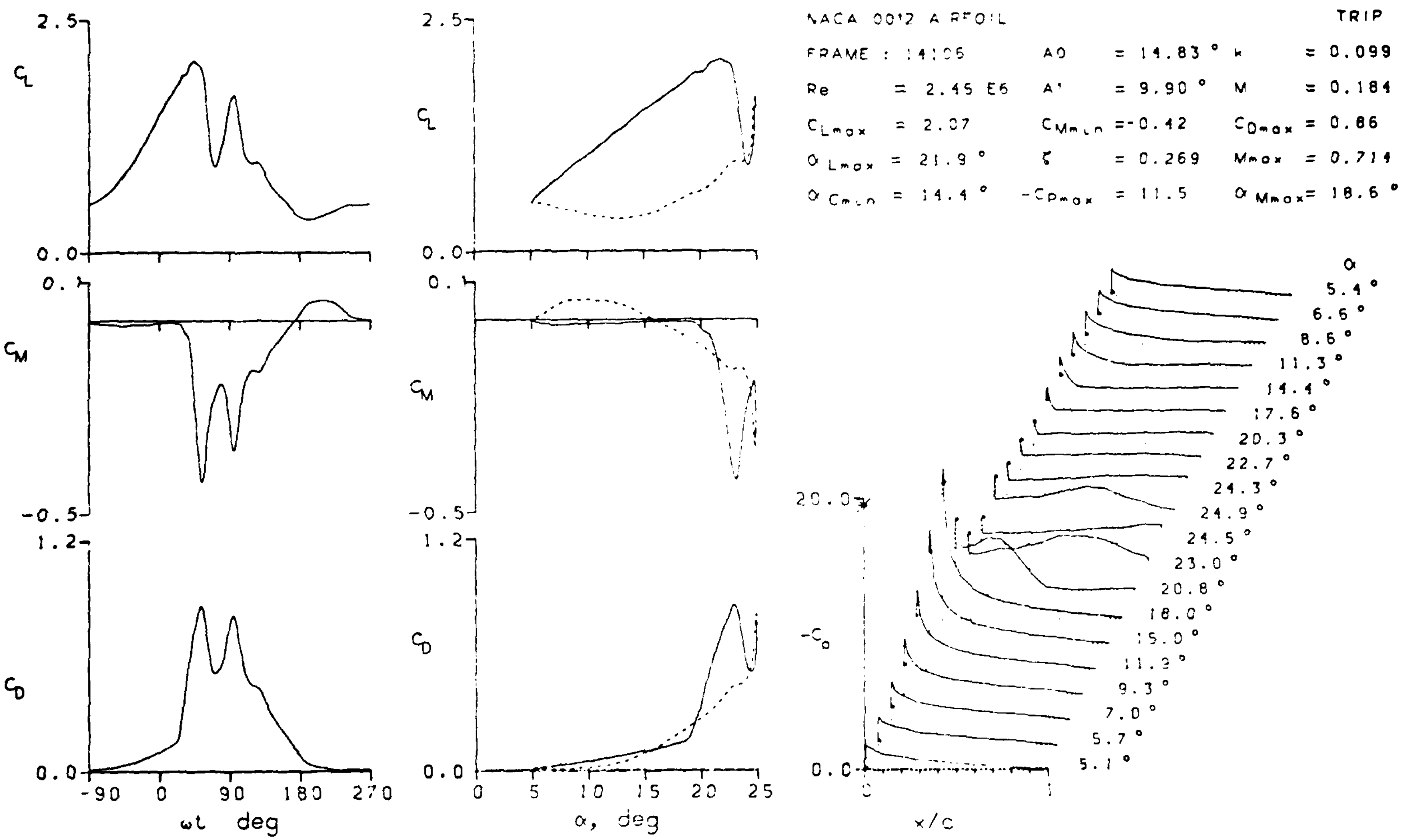

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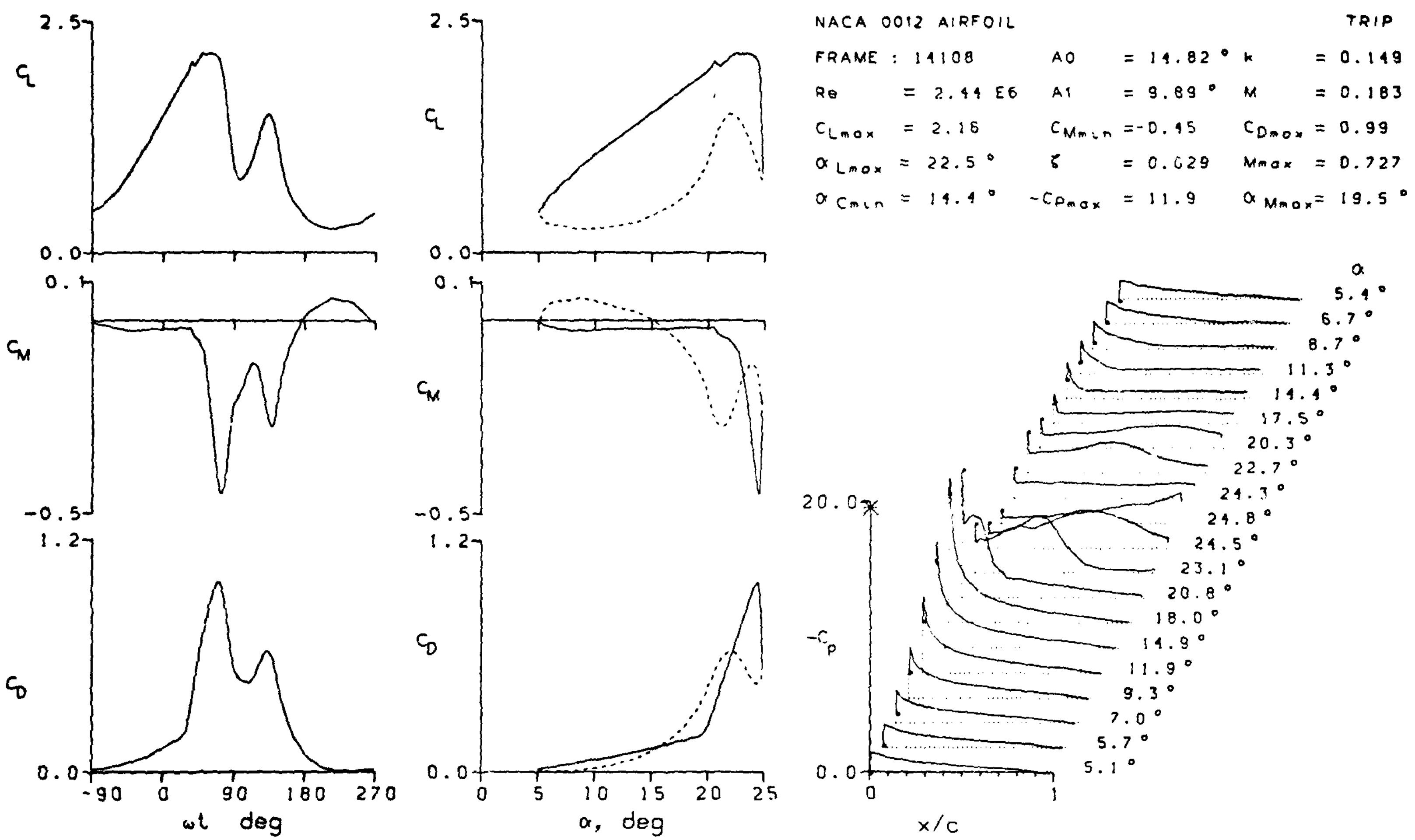

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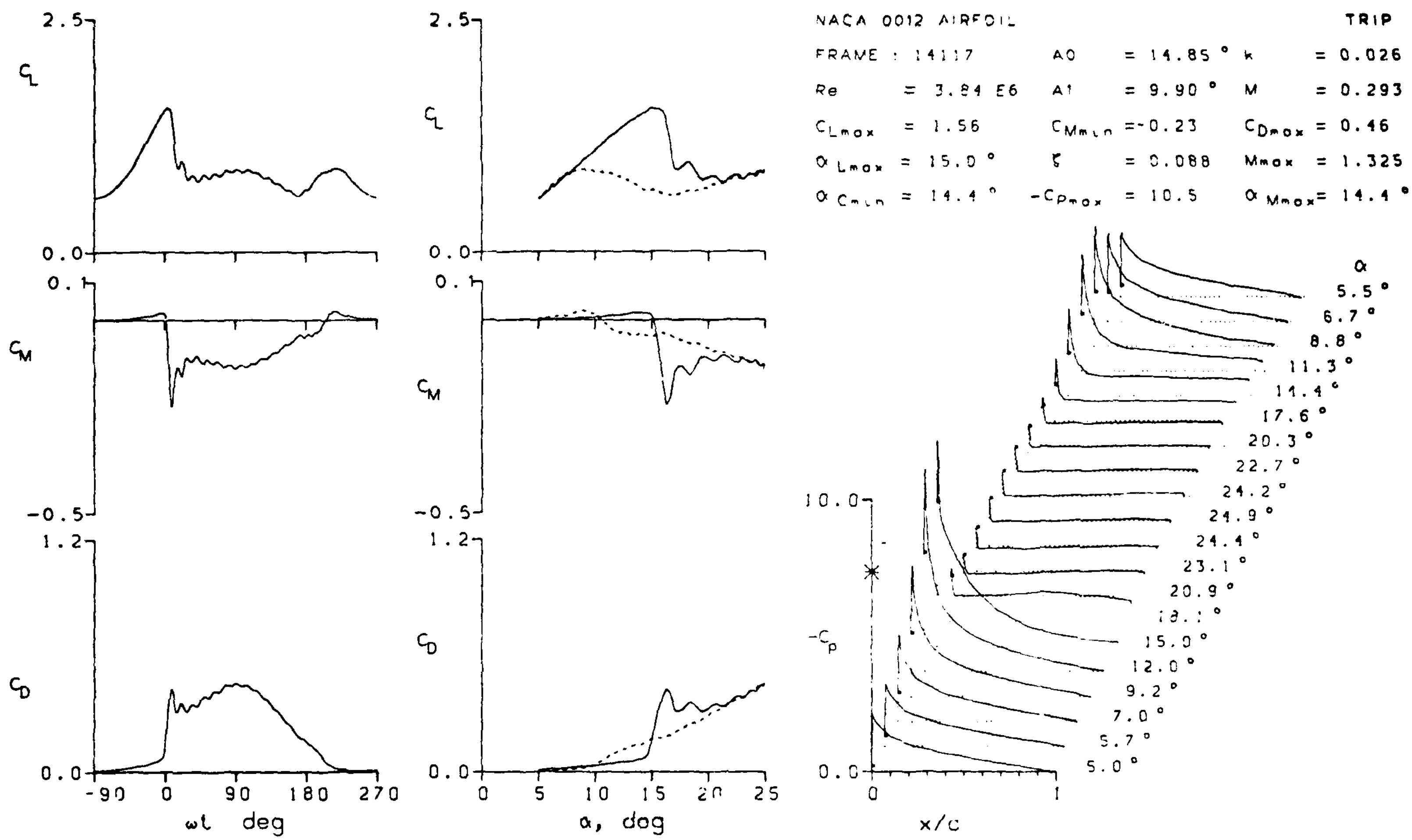

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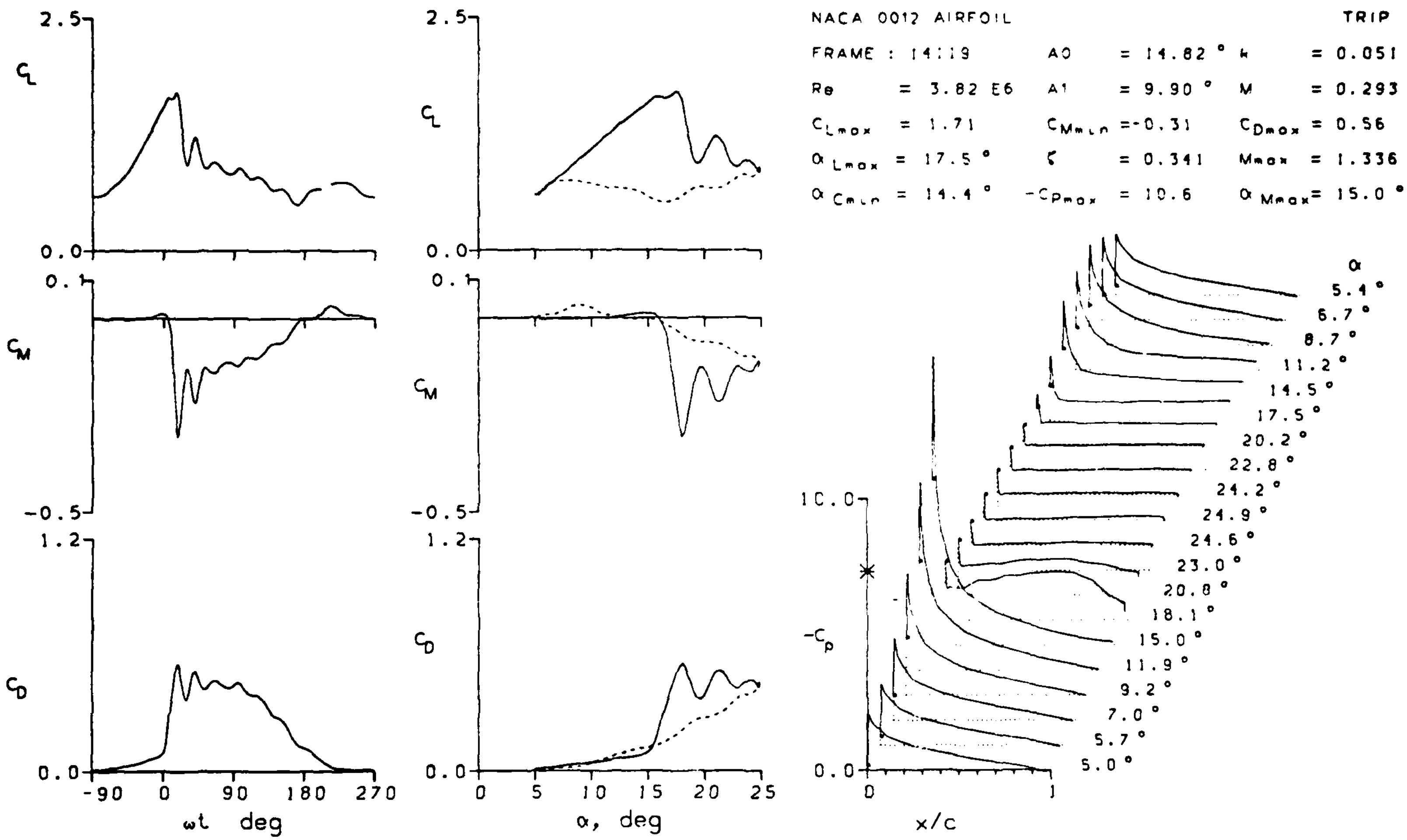

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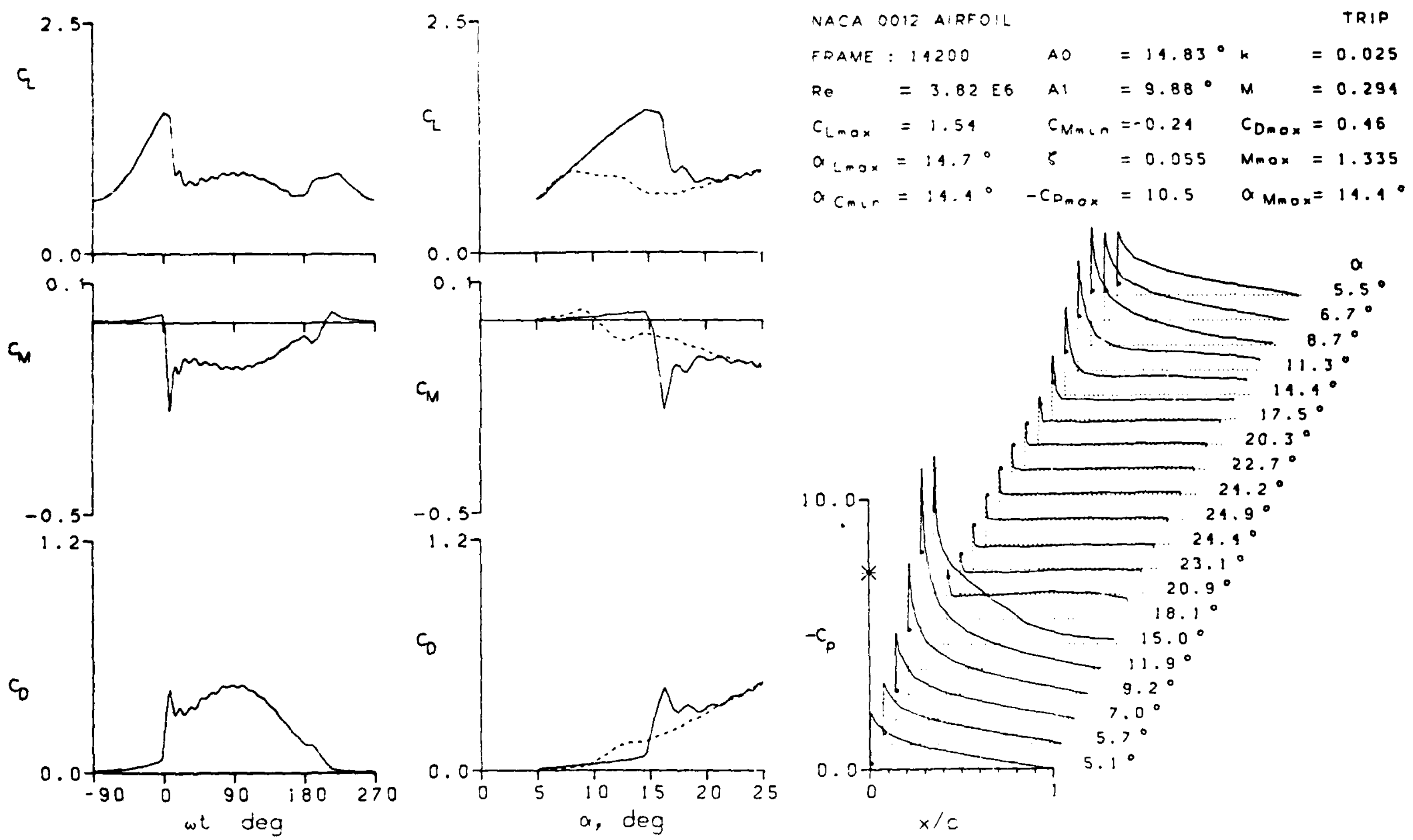

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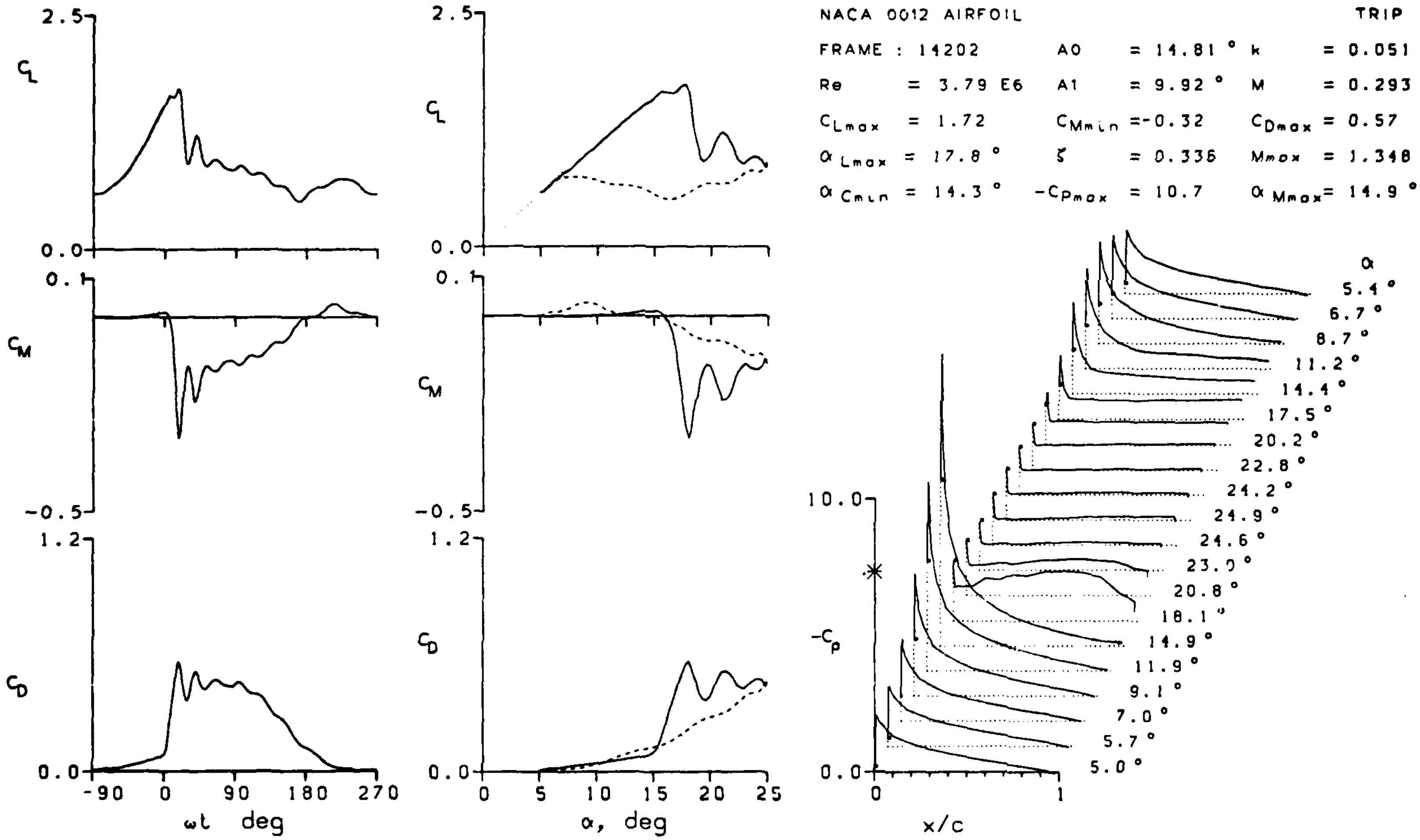

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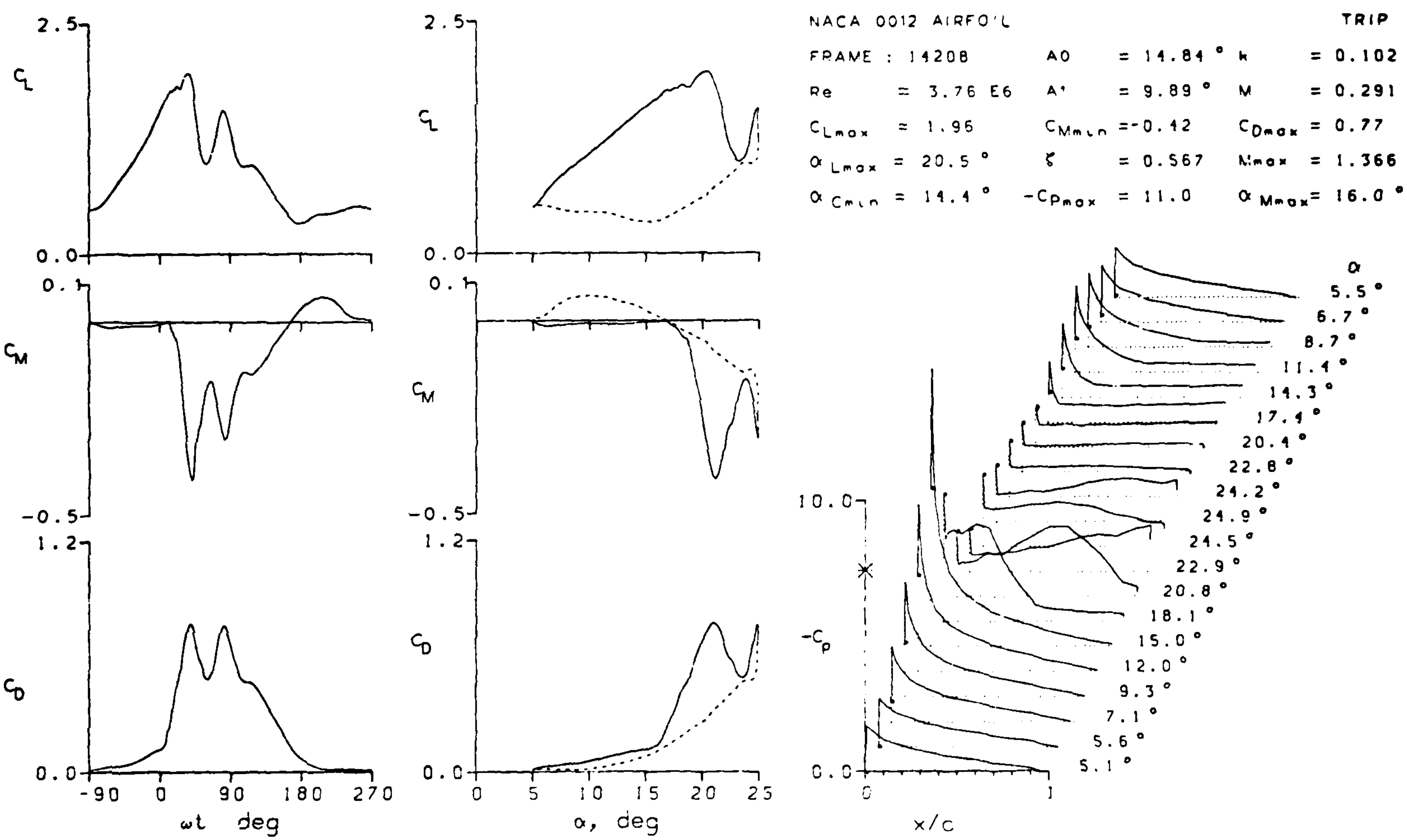

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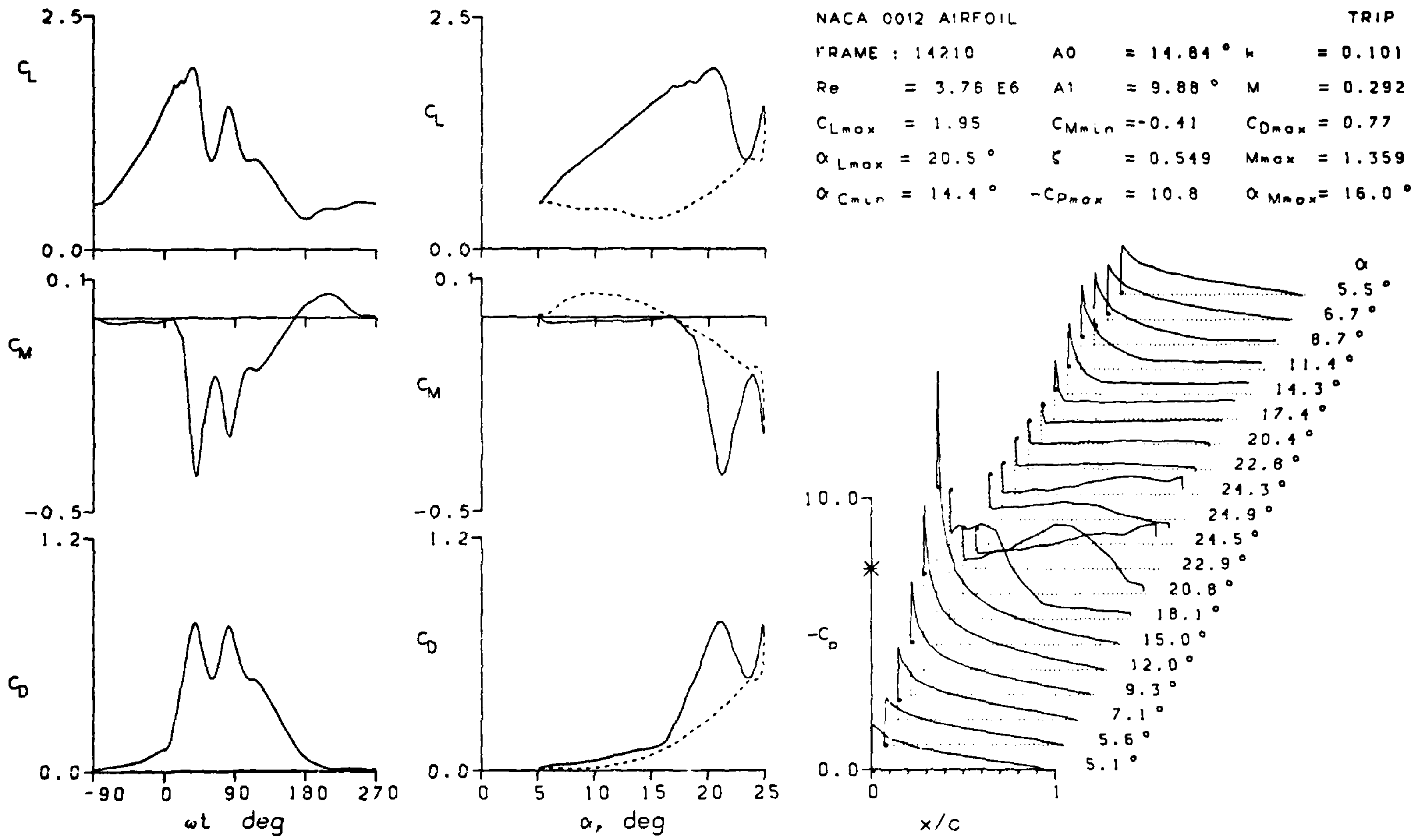

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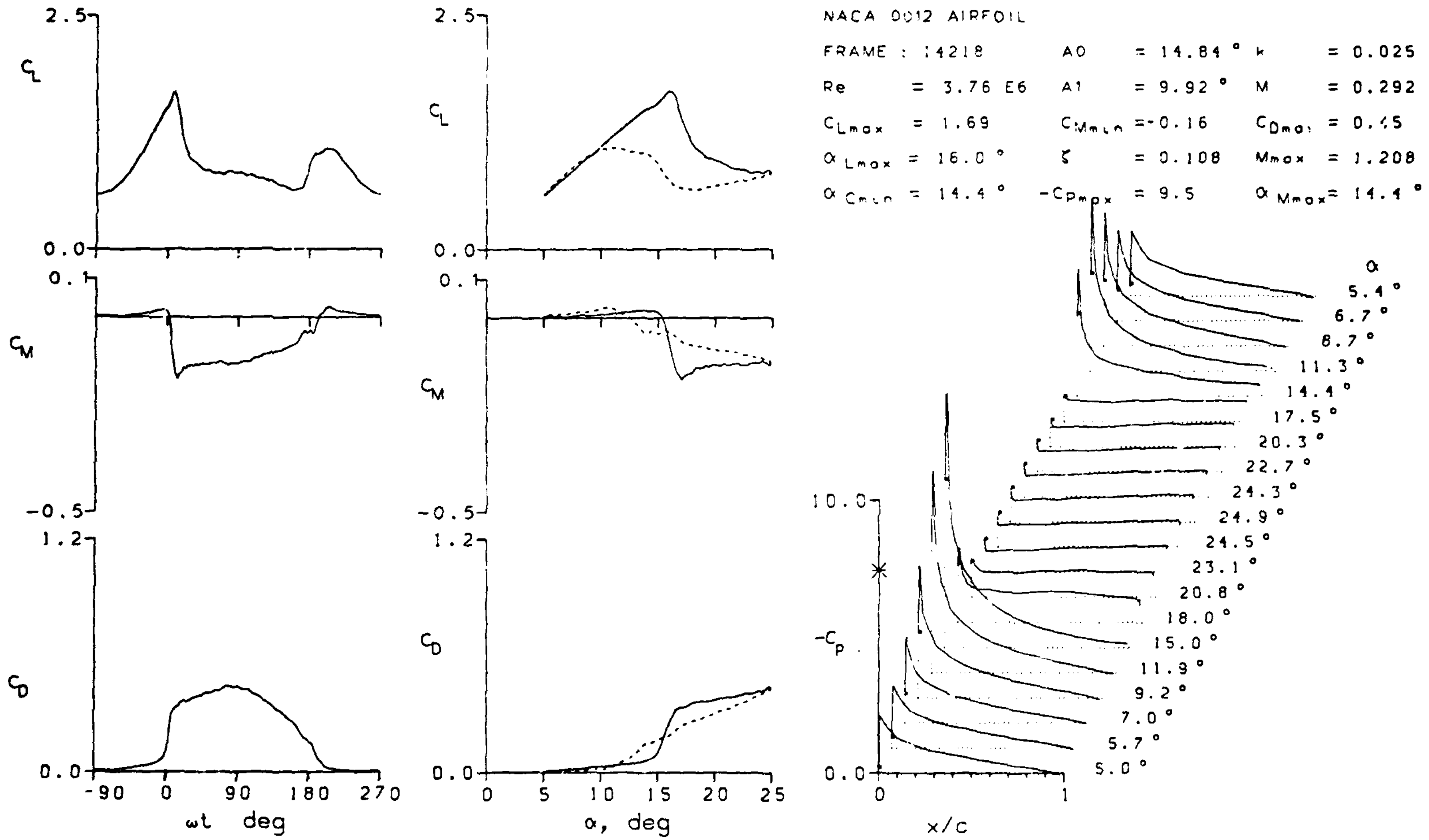

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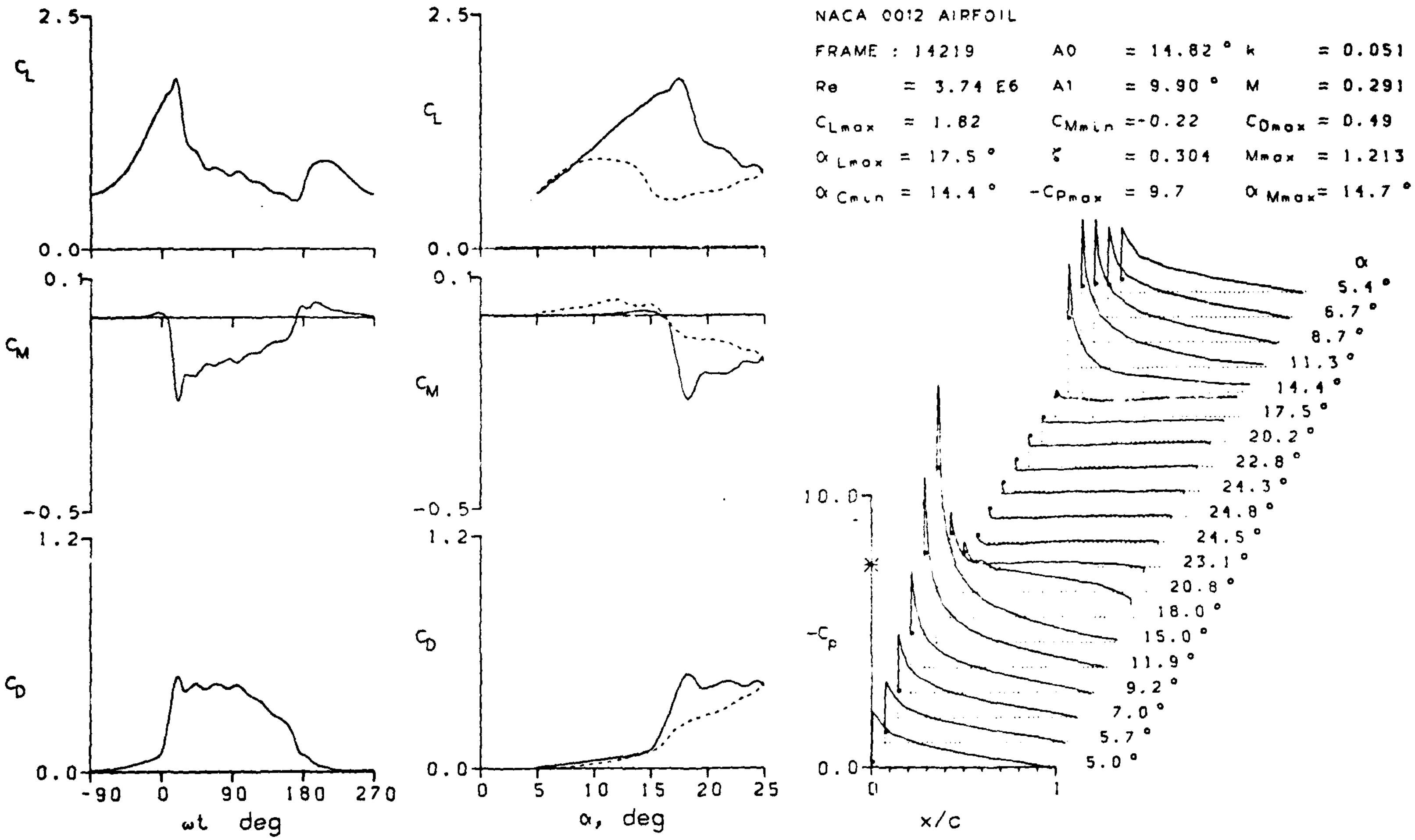

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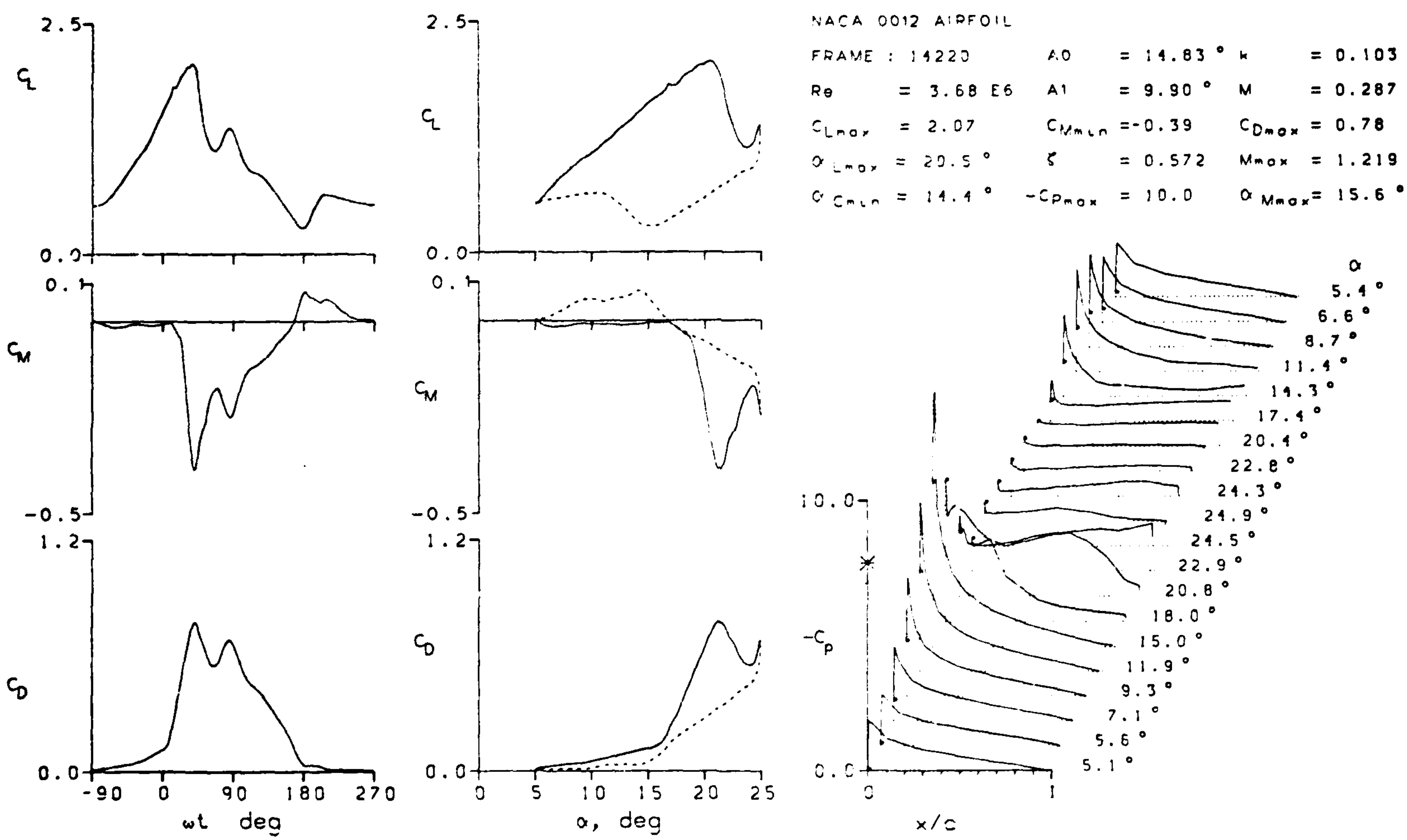

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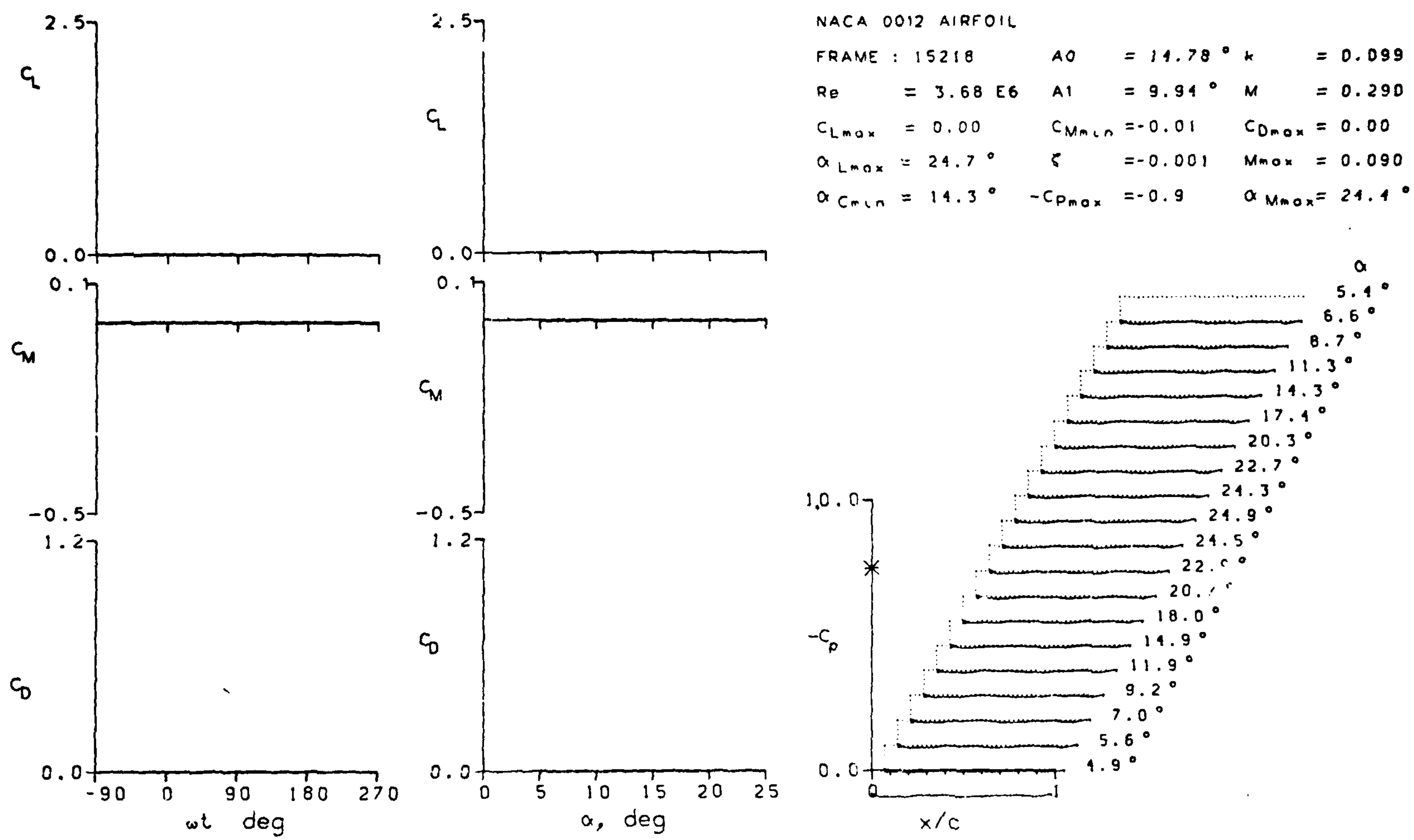

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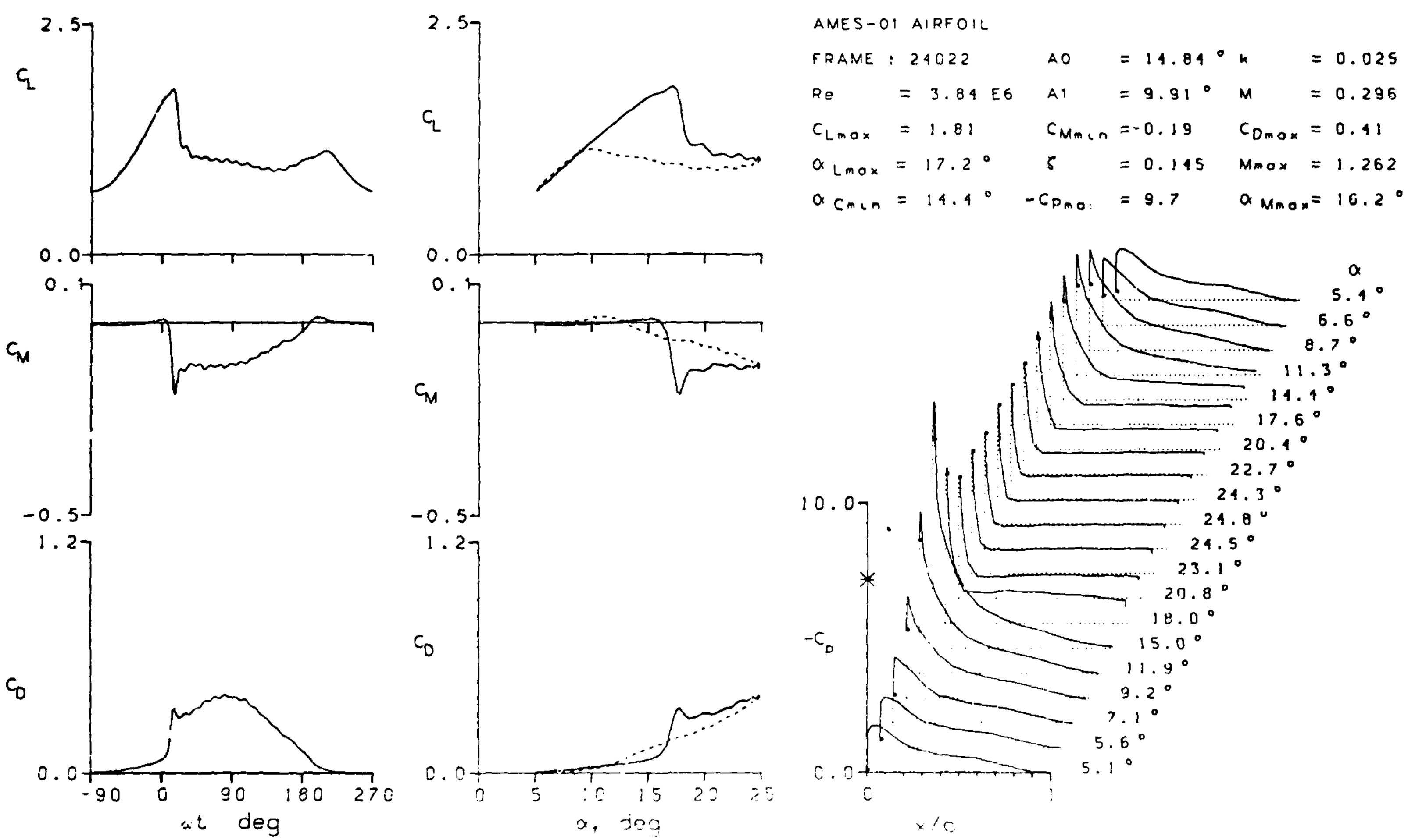
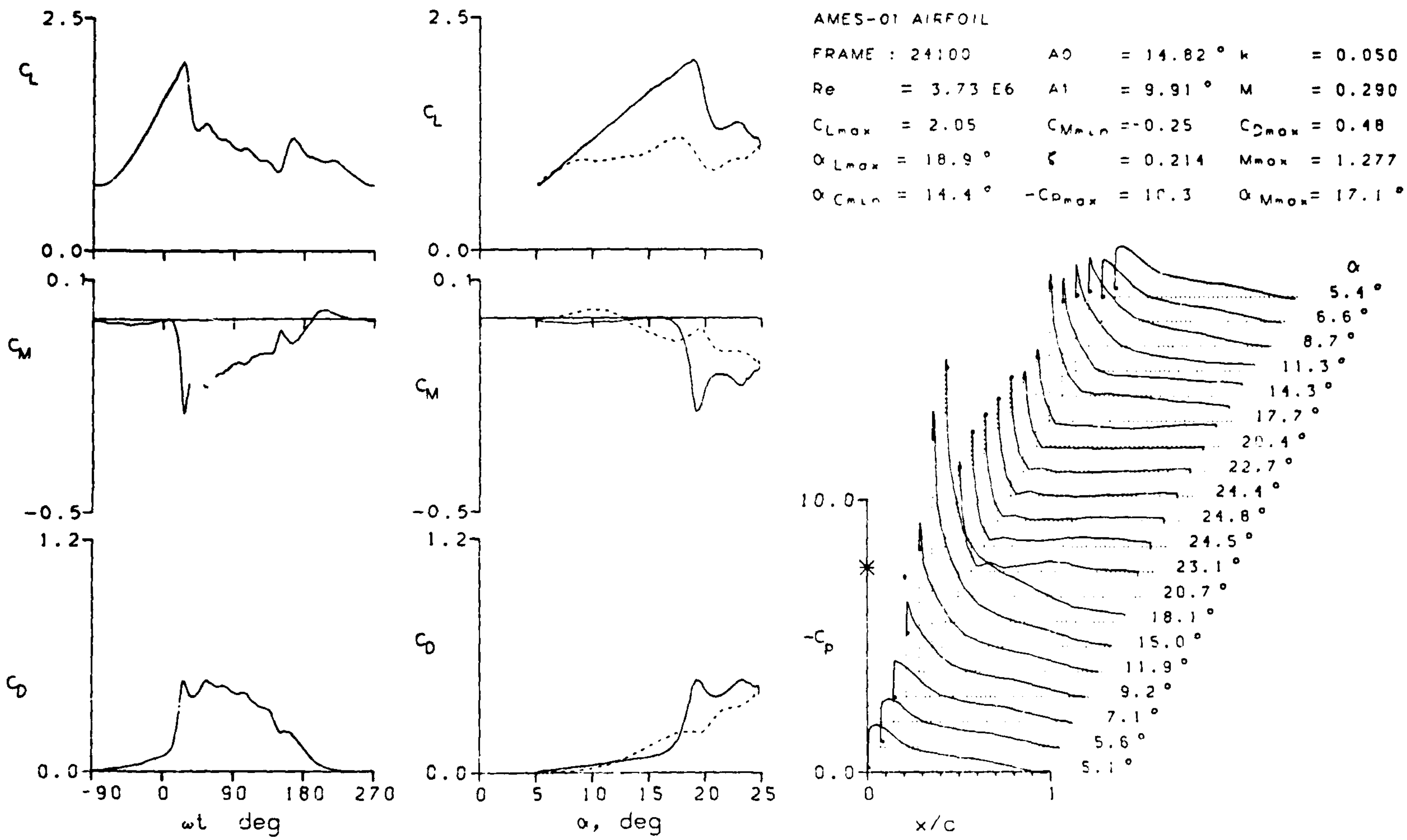


Figure 13.- Dynamic data for Ames A-01 airfoil.



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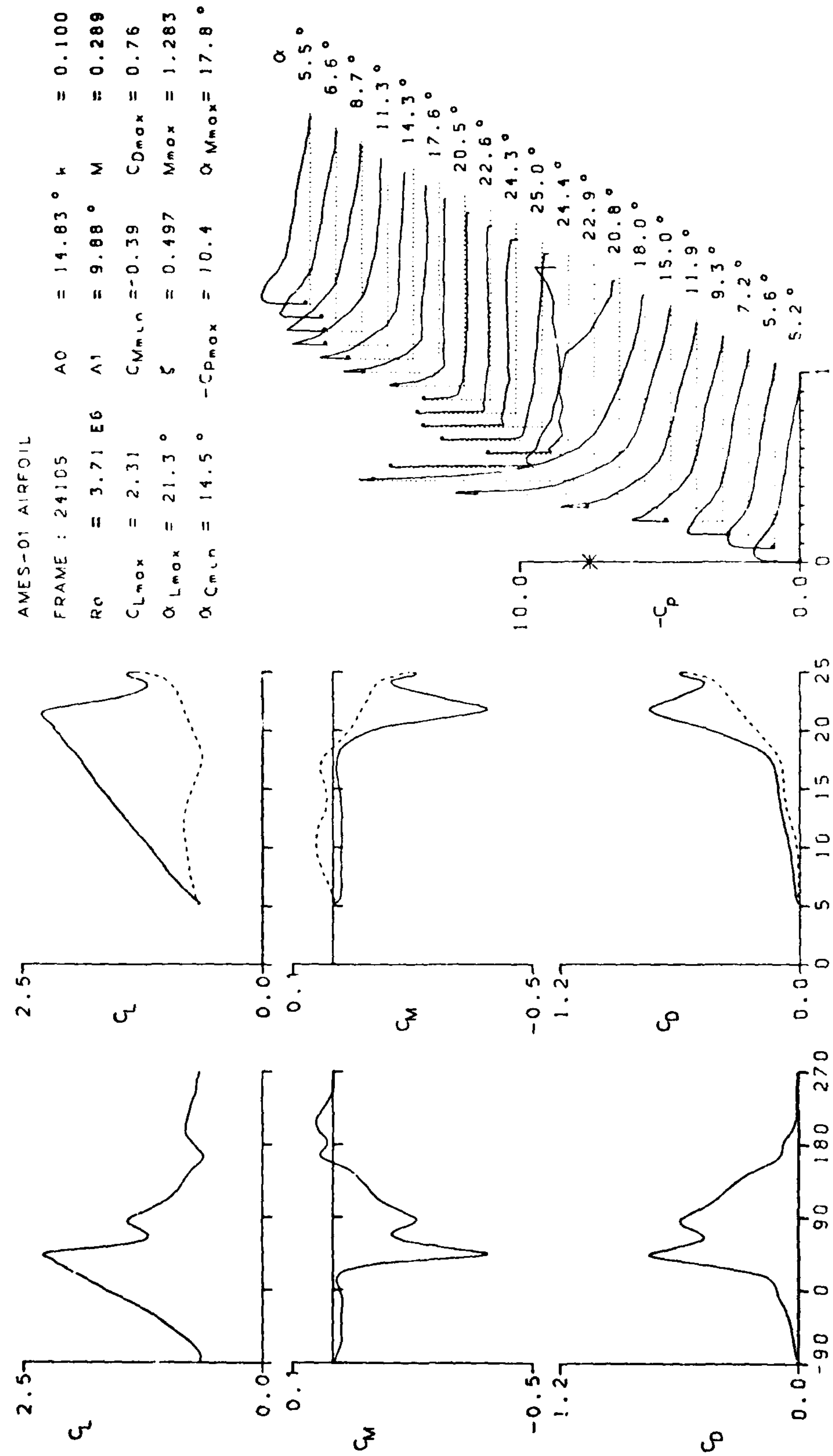

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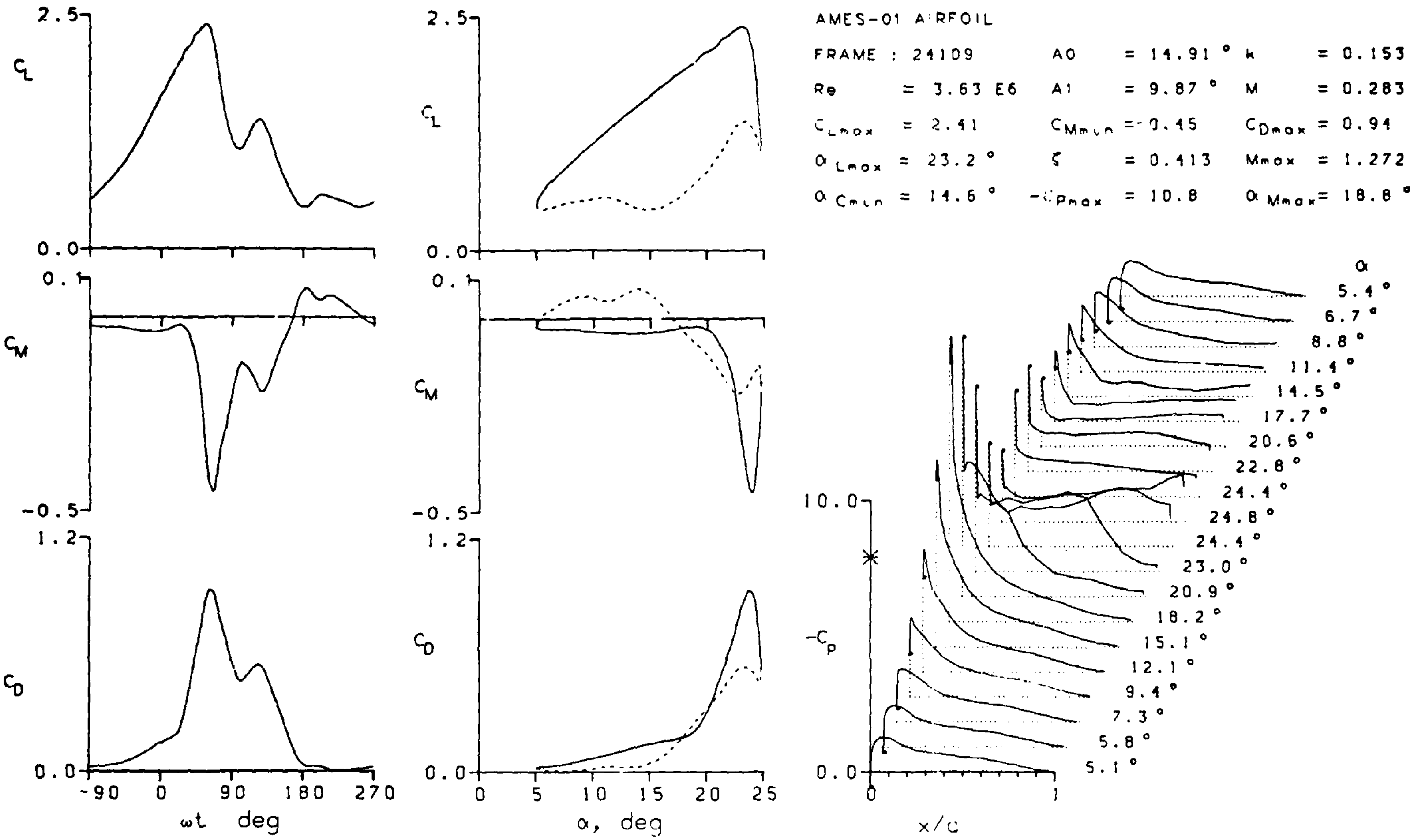

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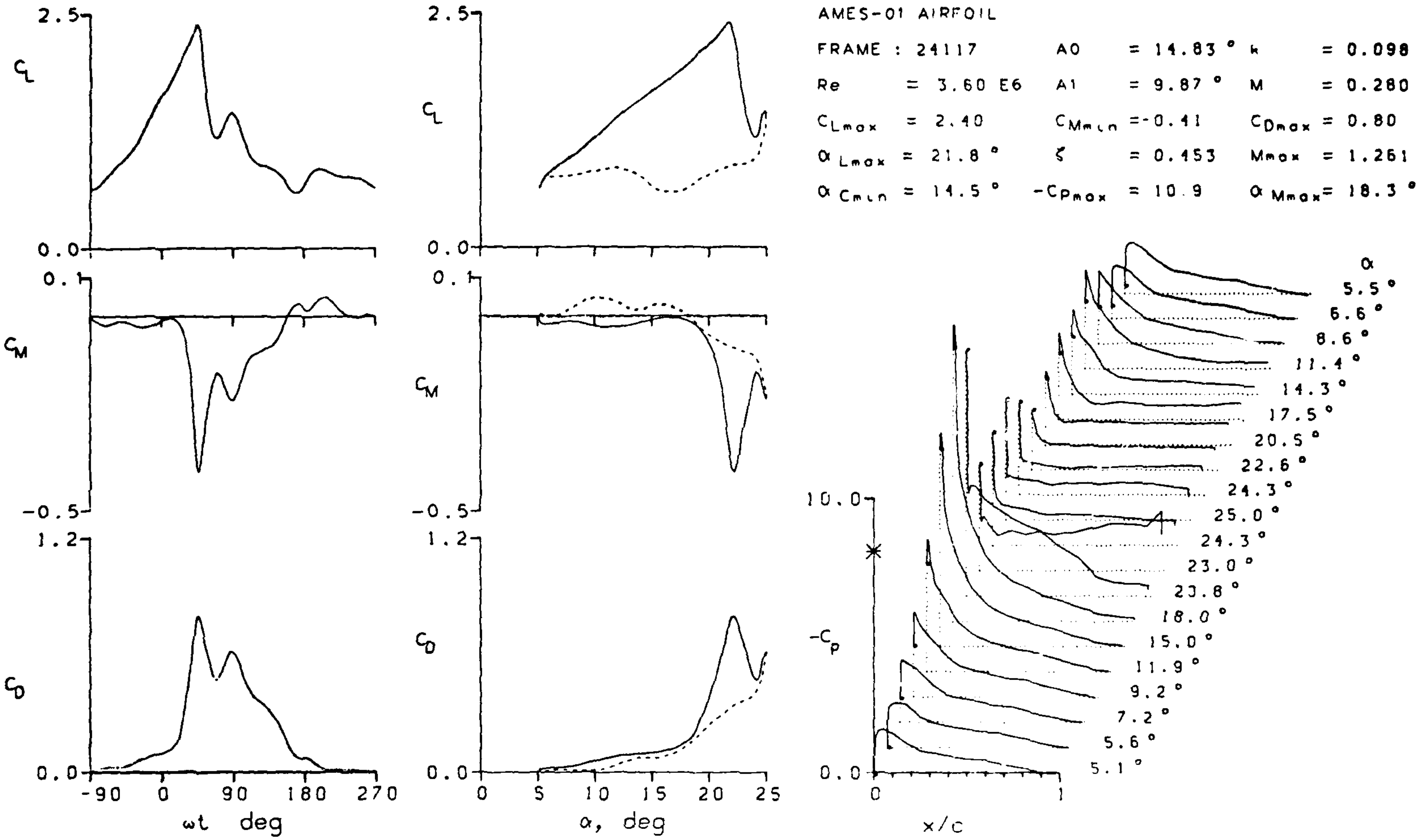

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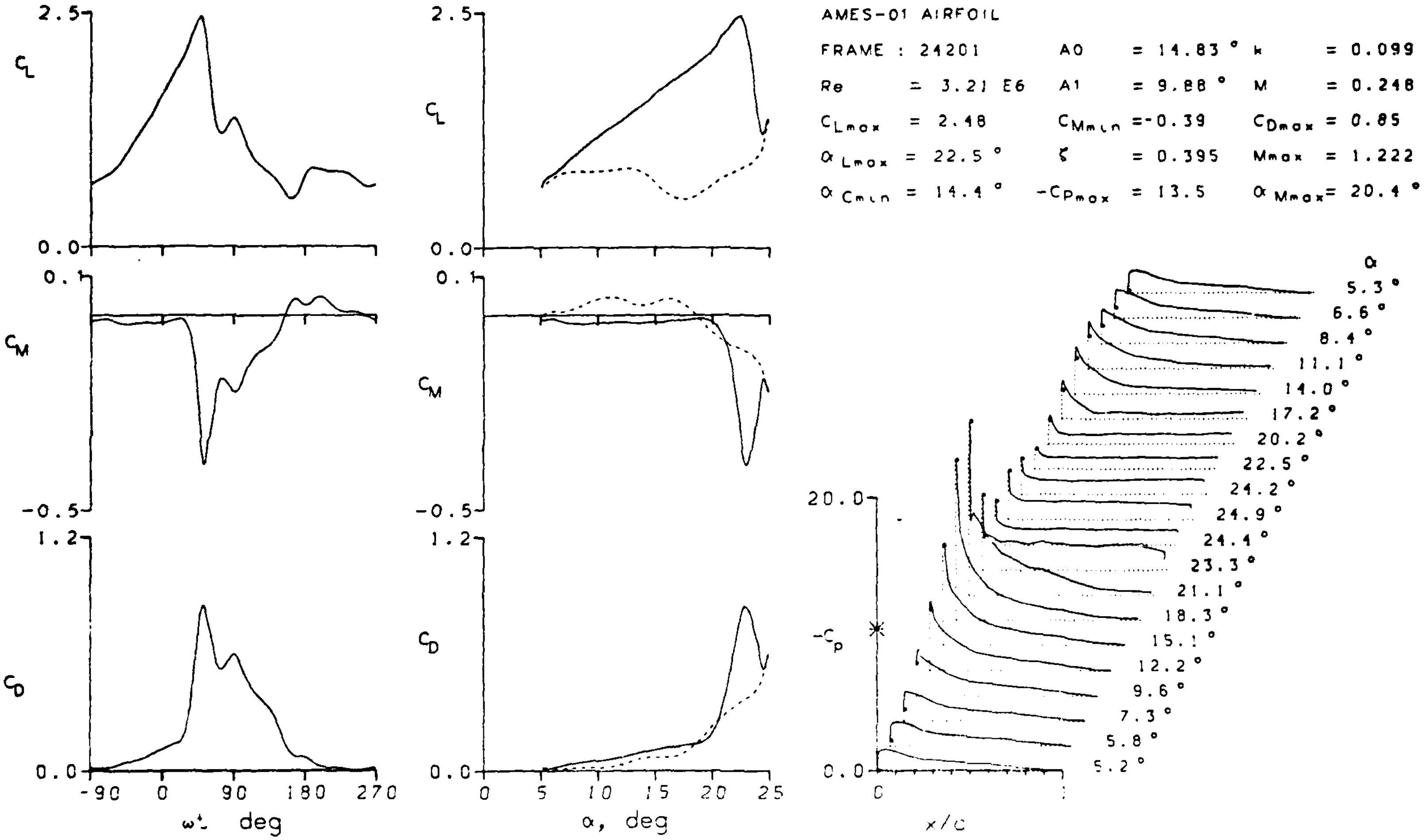

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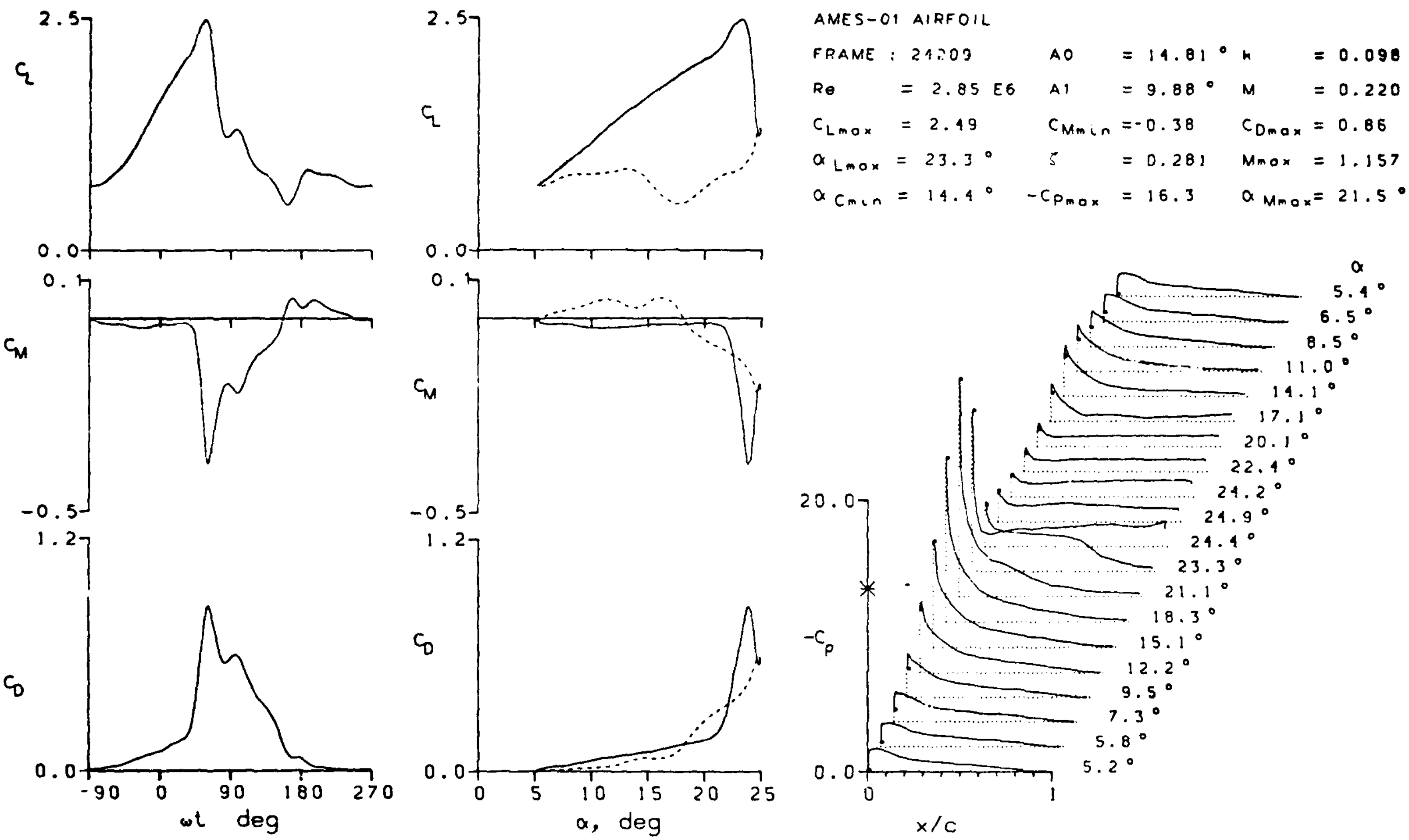

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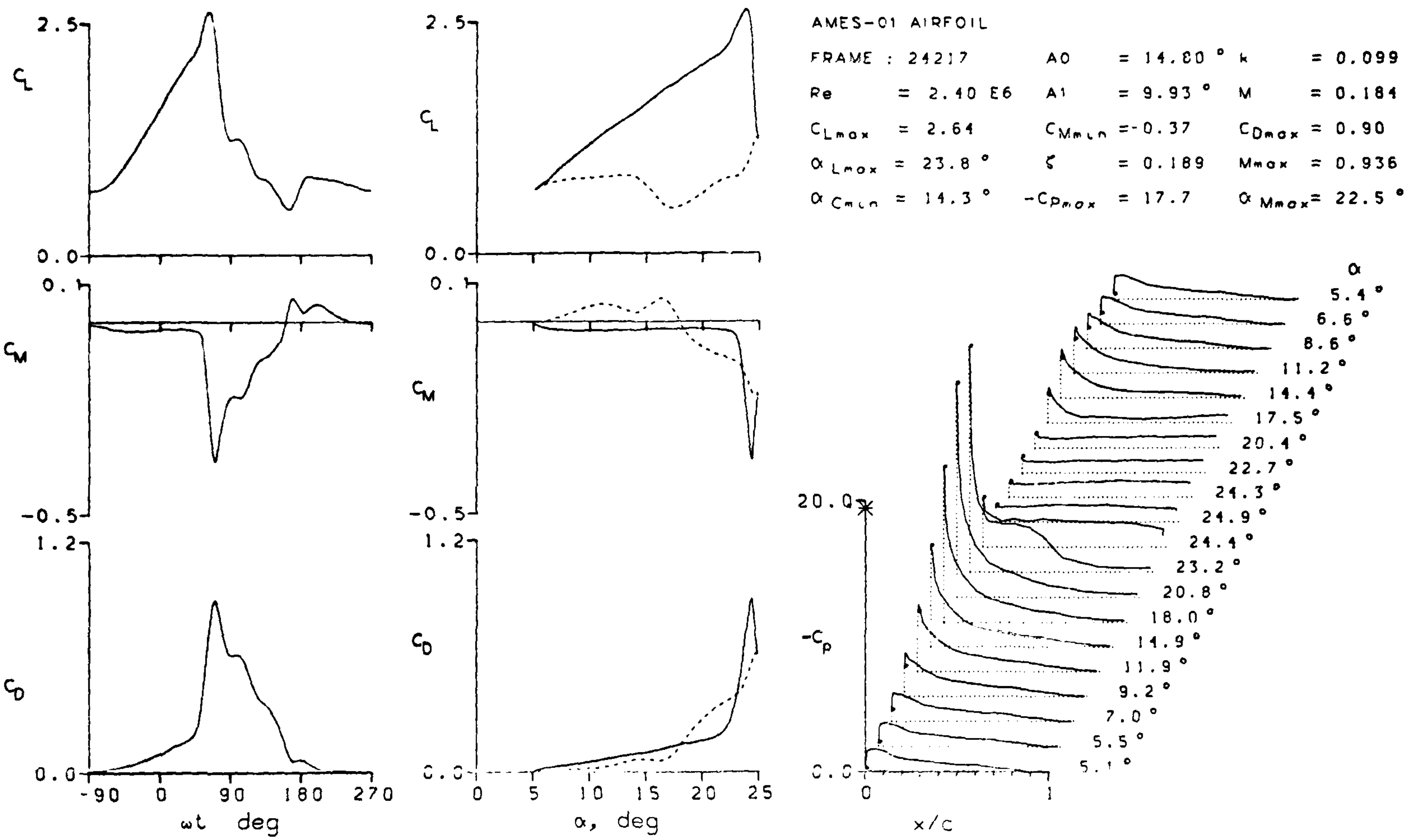

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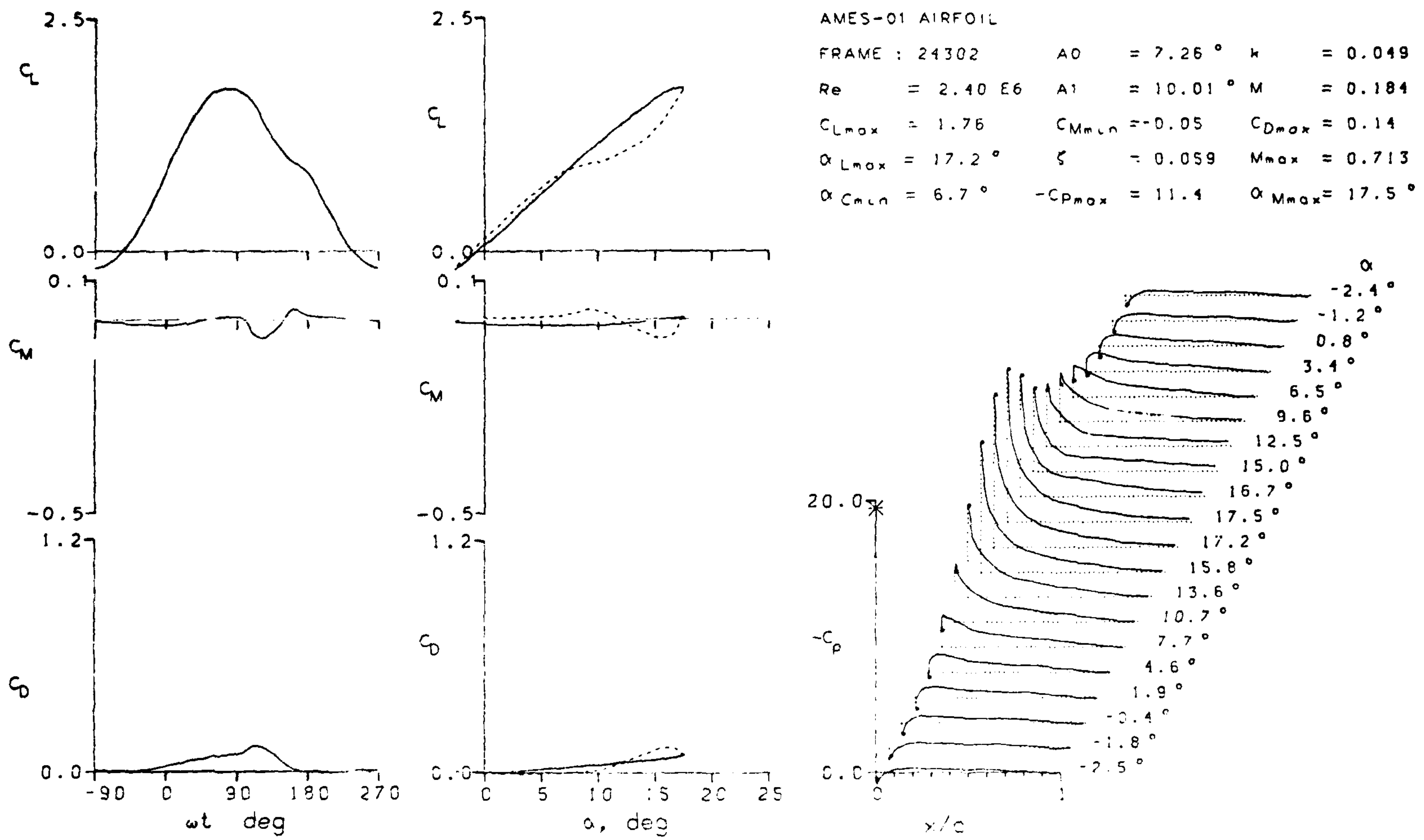

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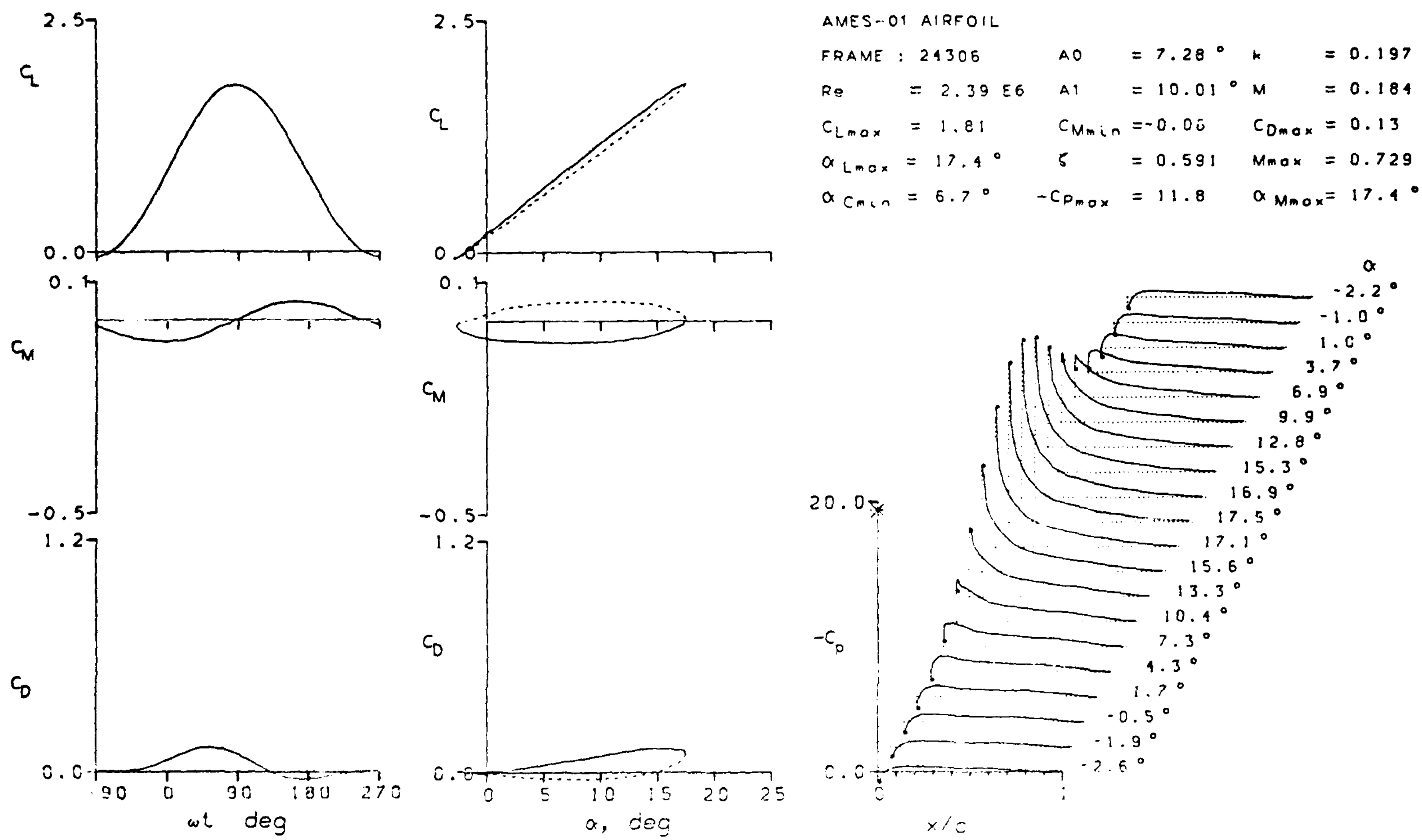

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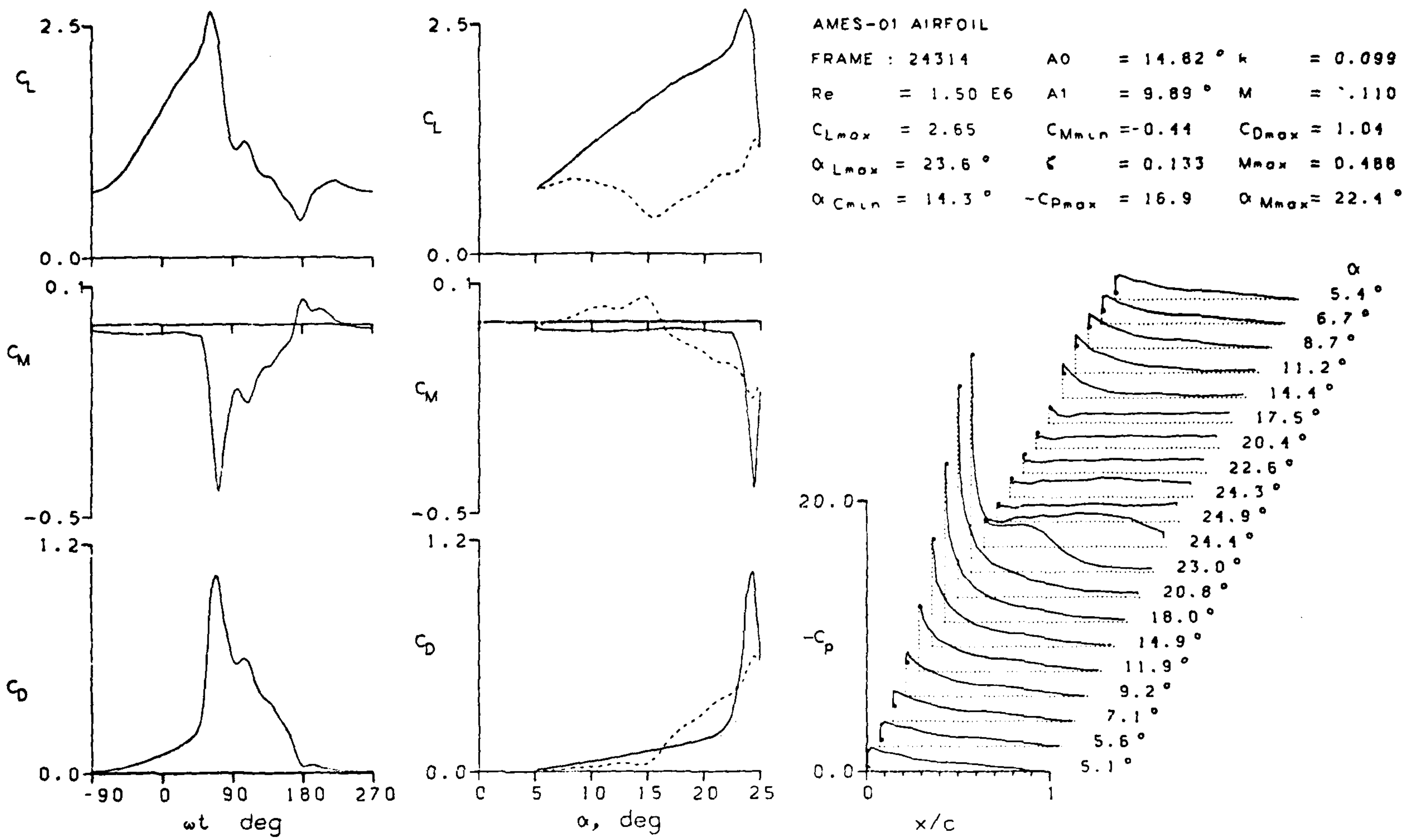

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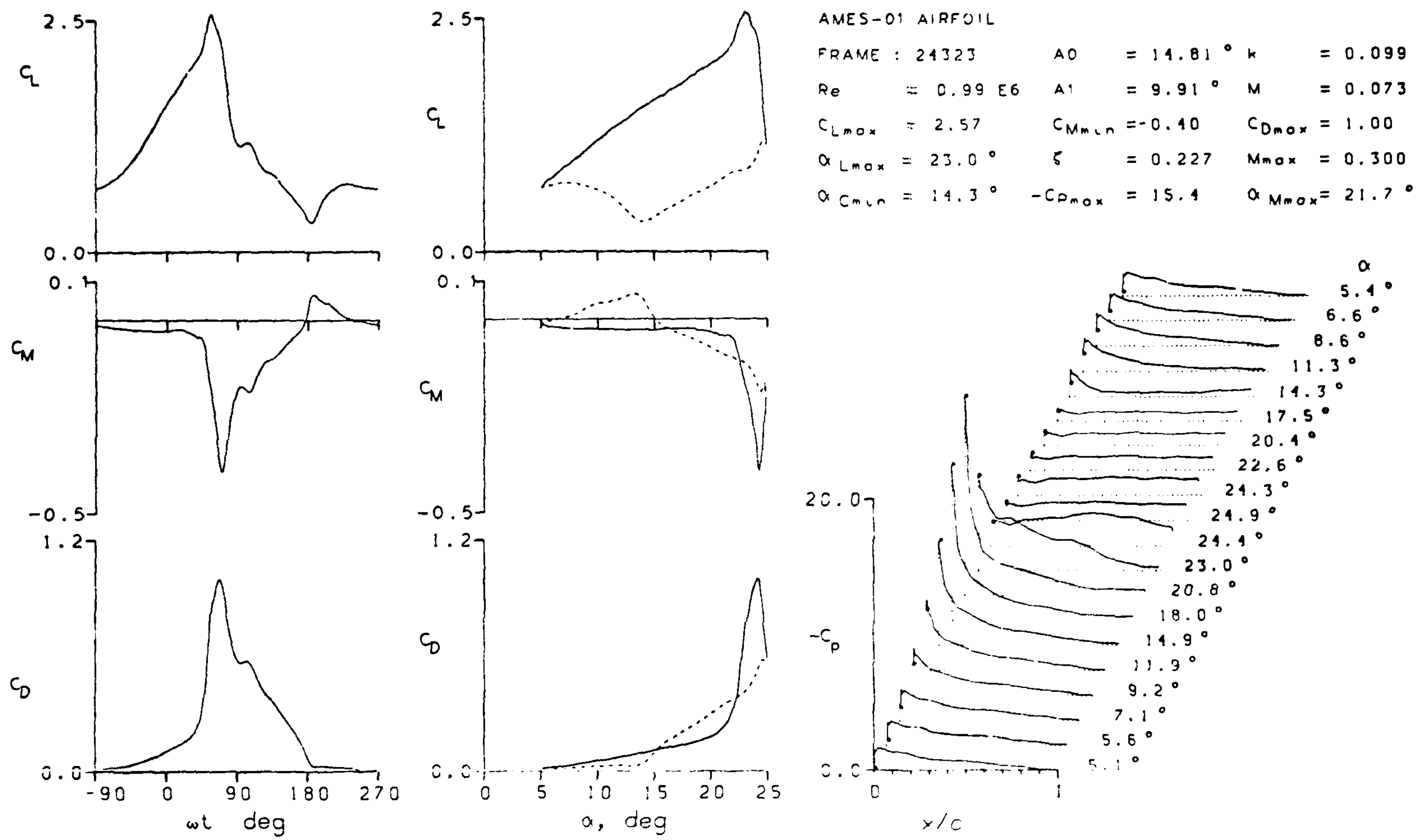

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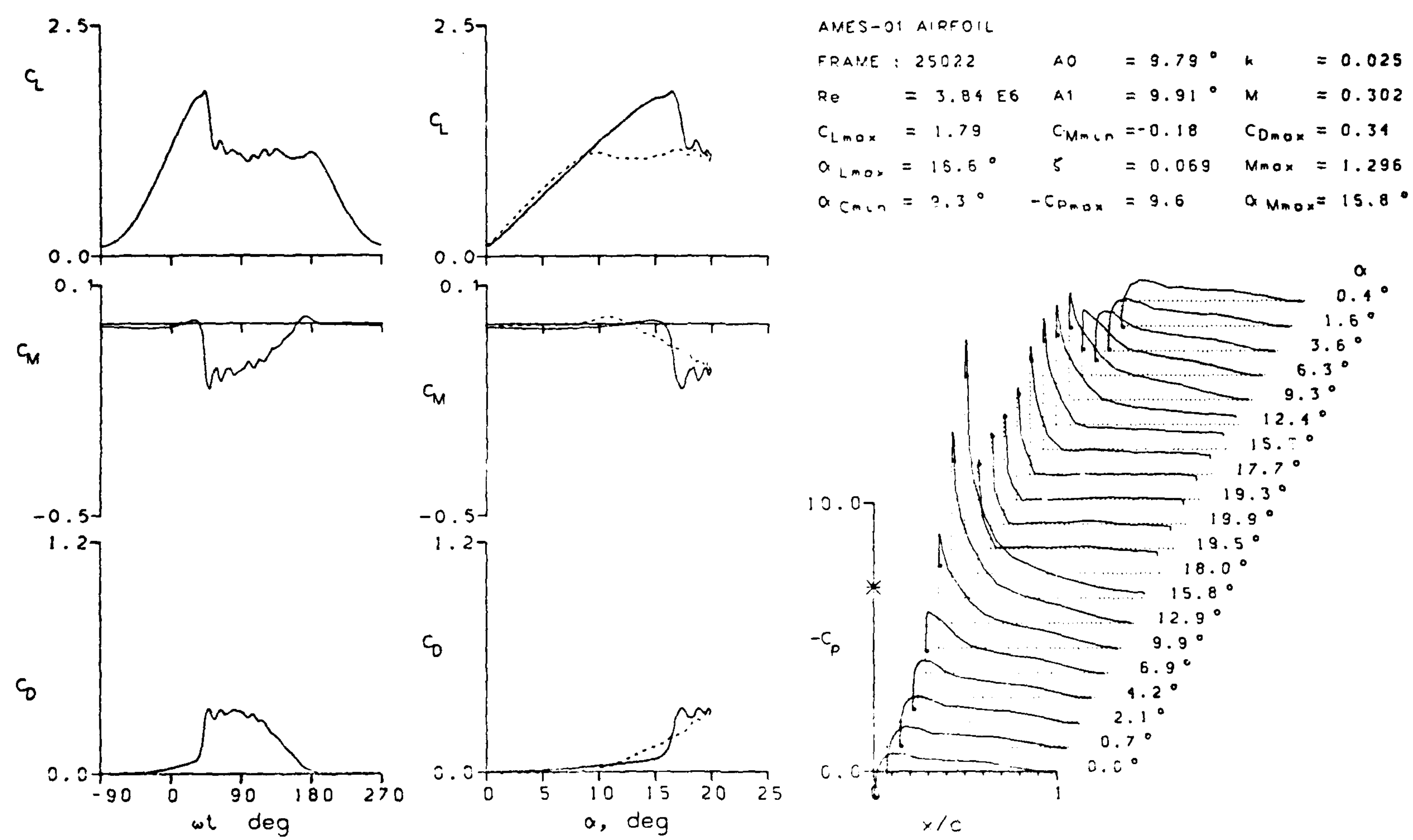

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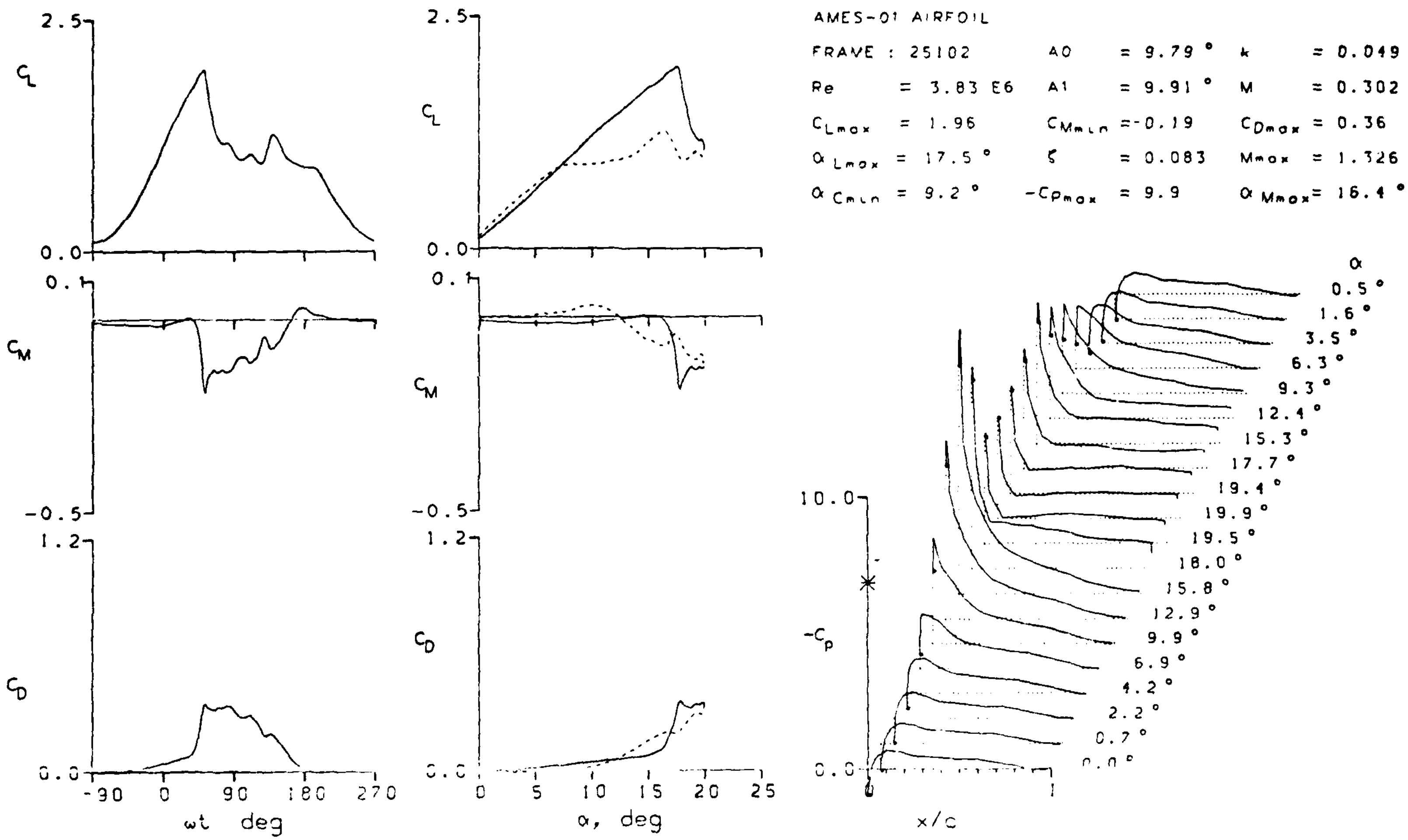

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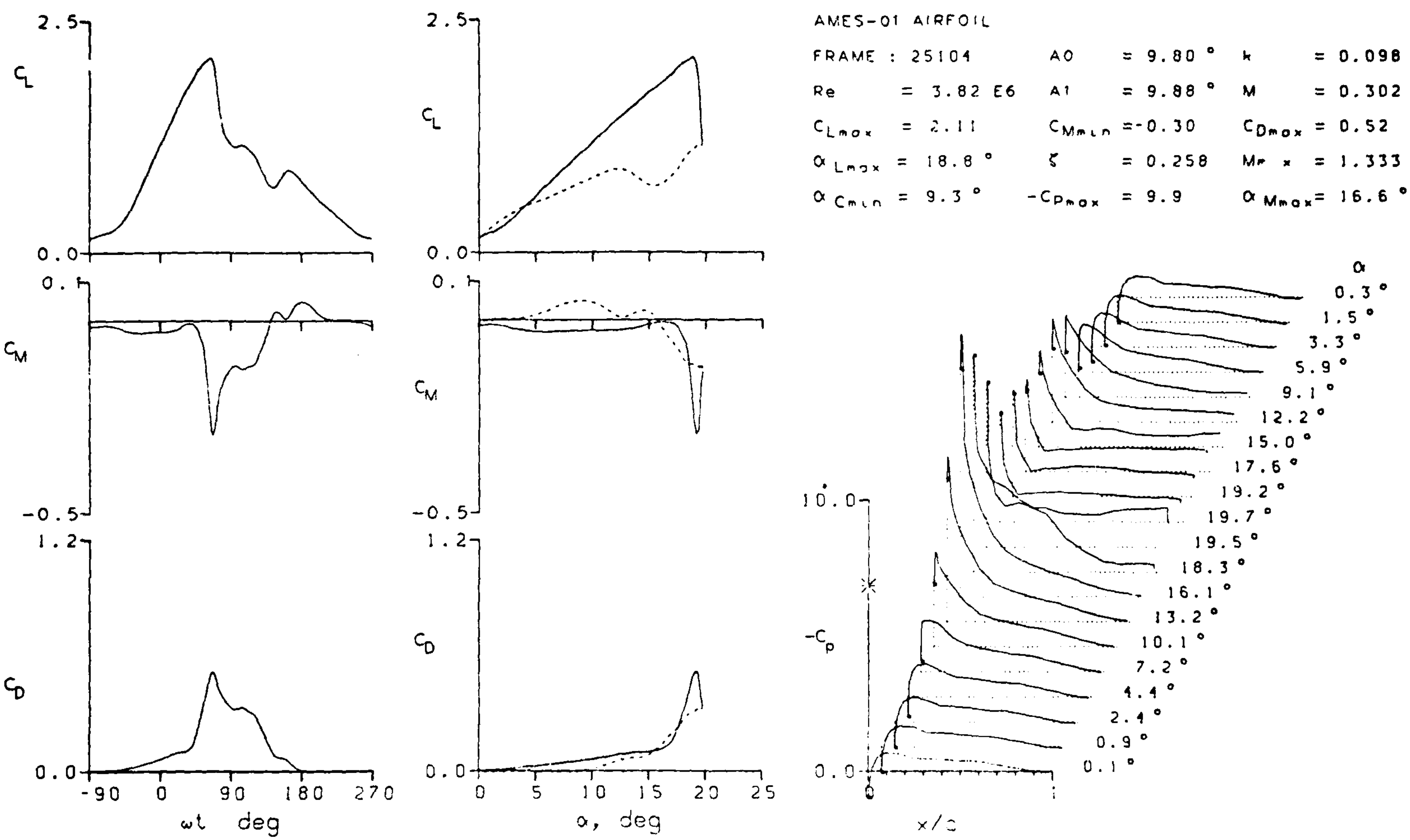

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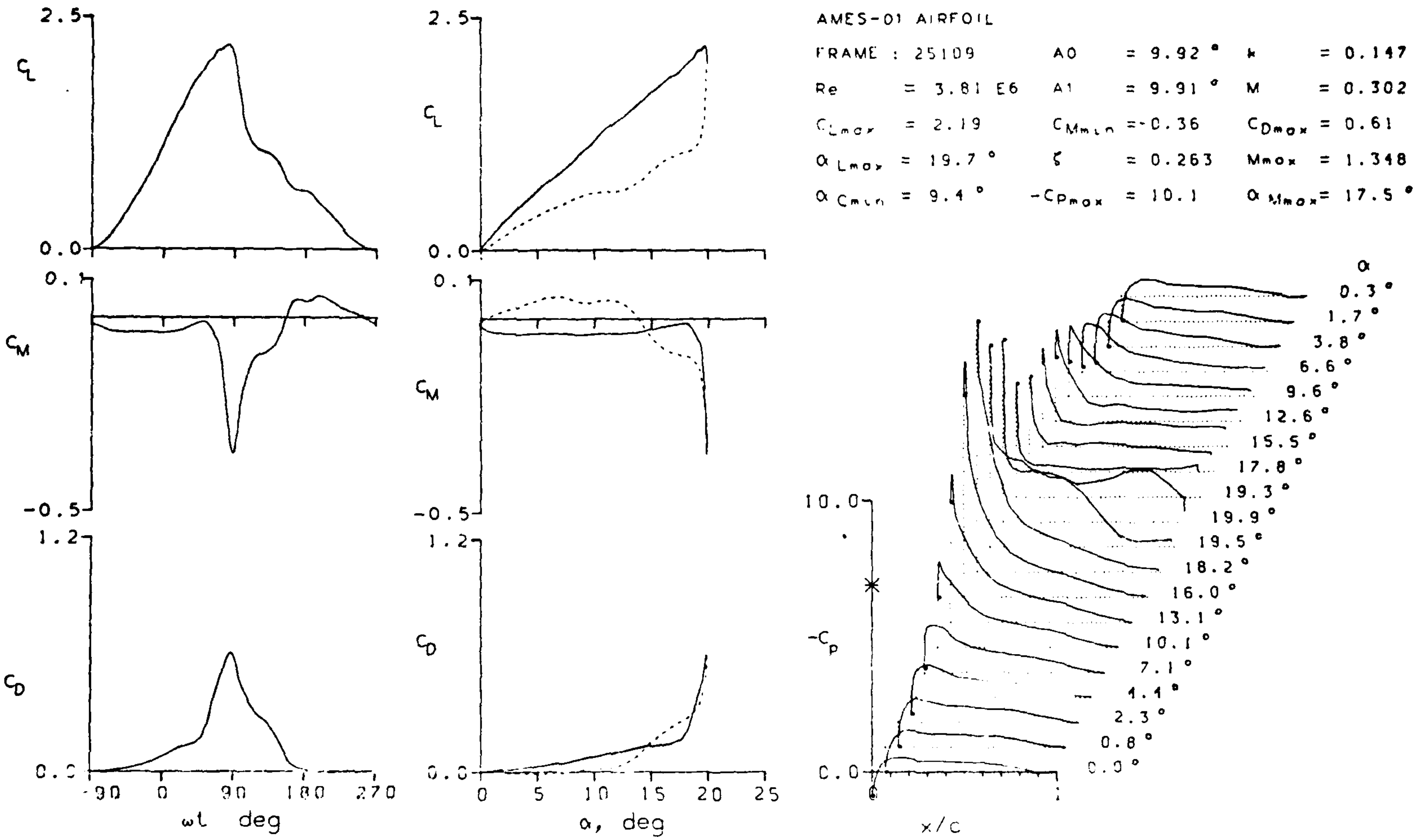

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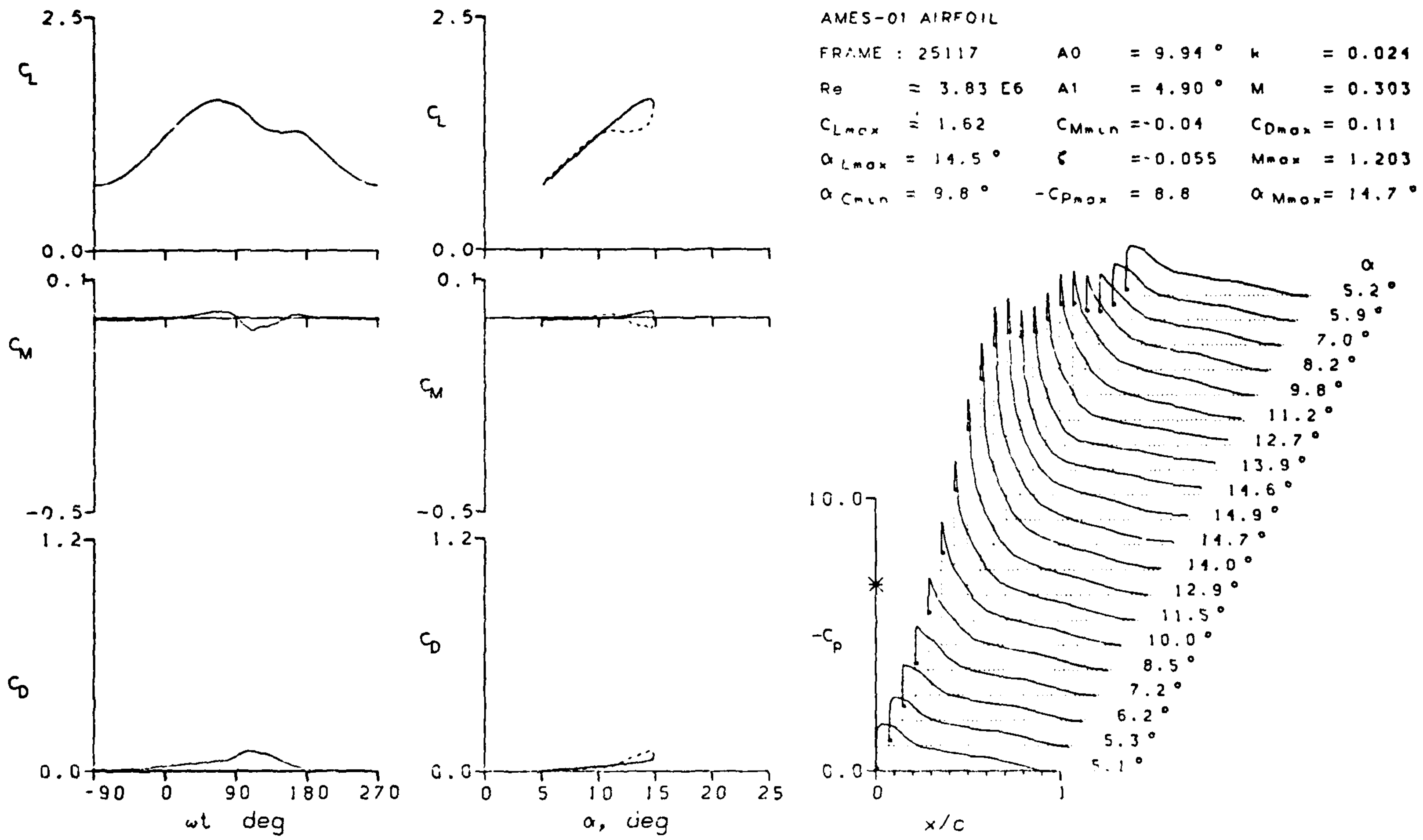

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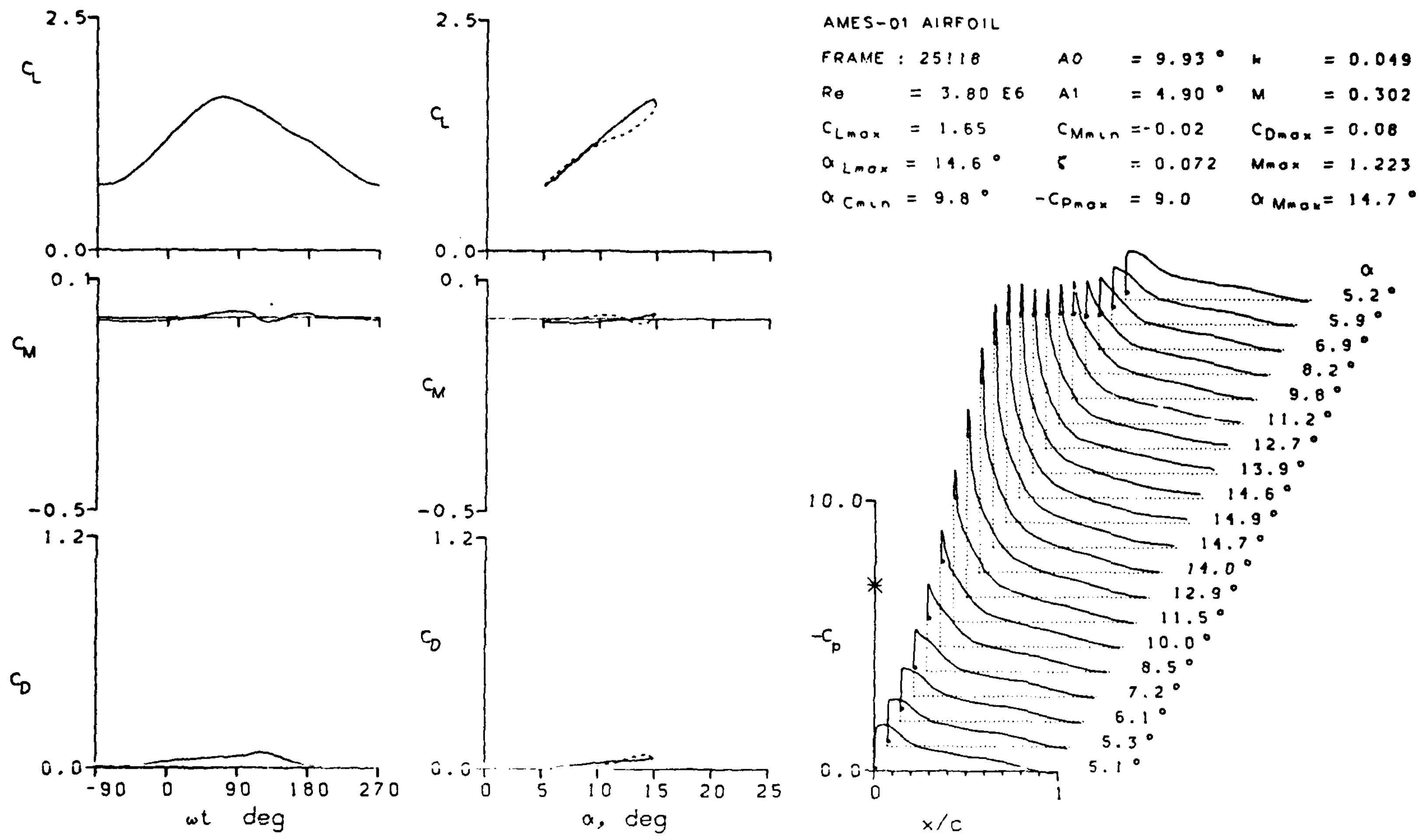

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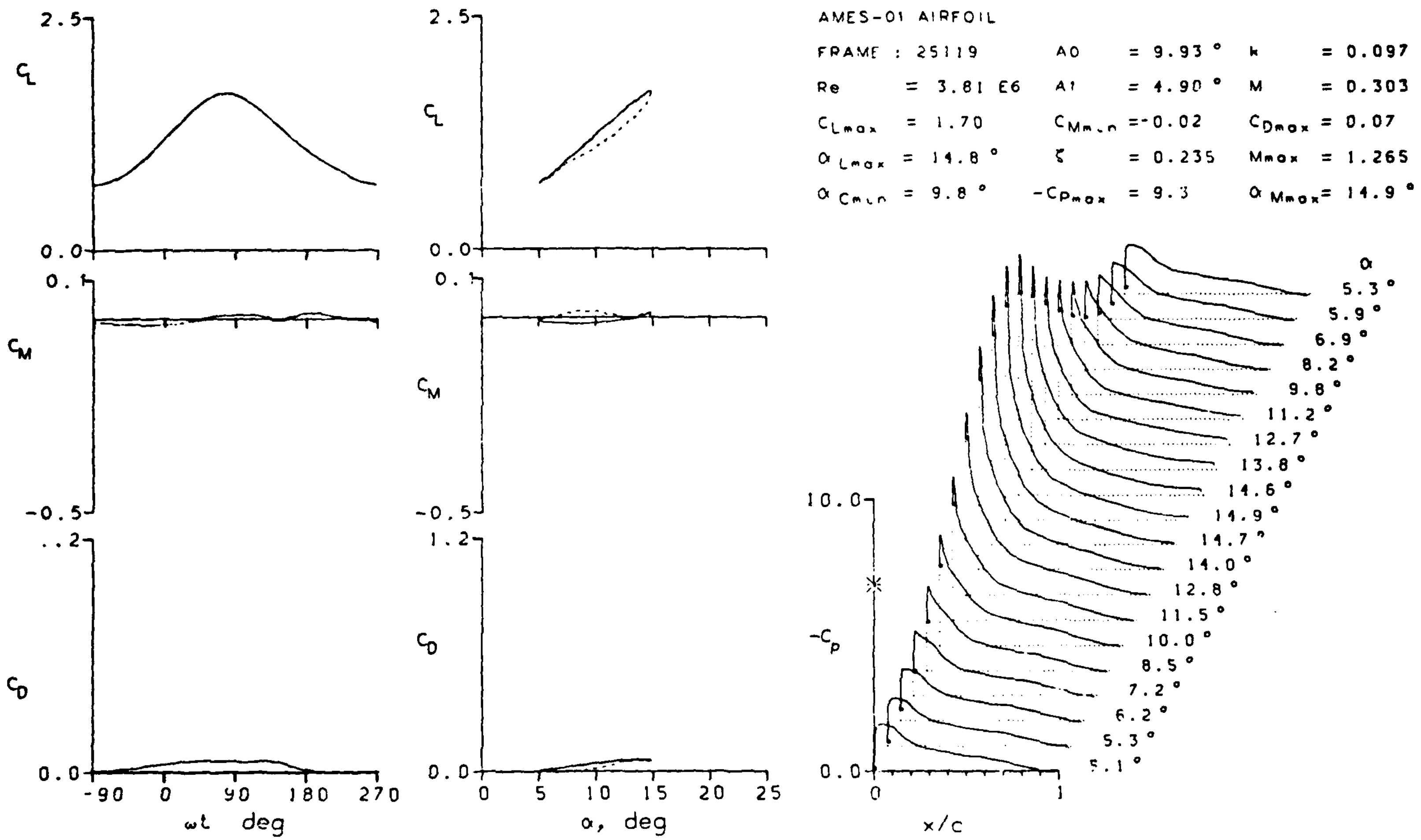

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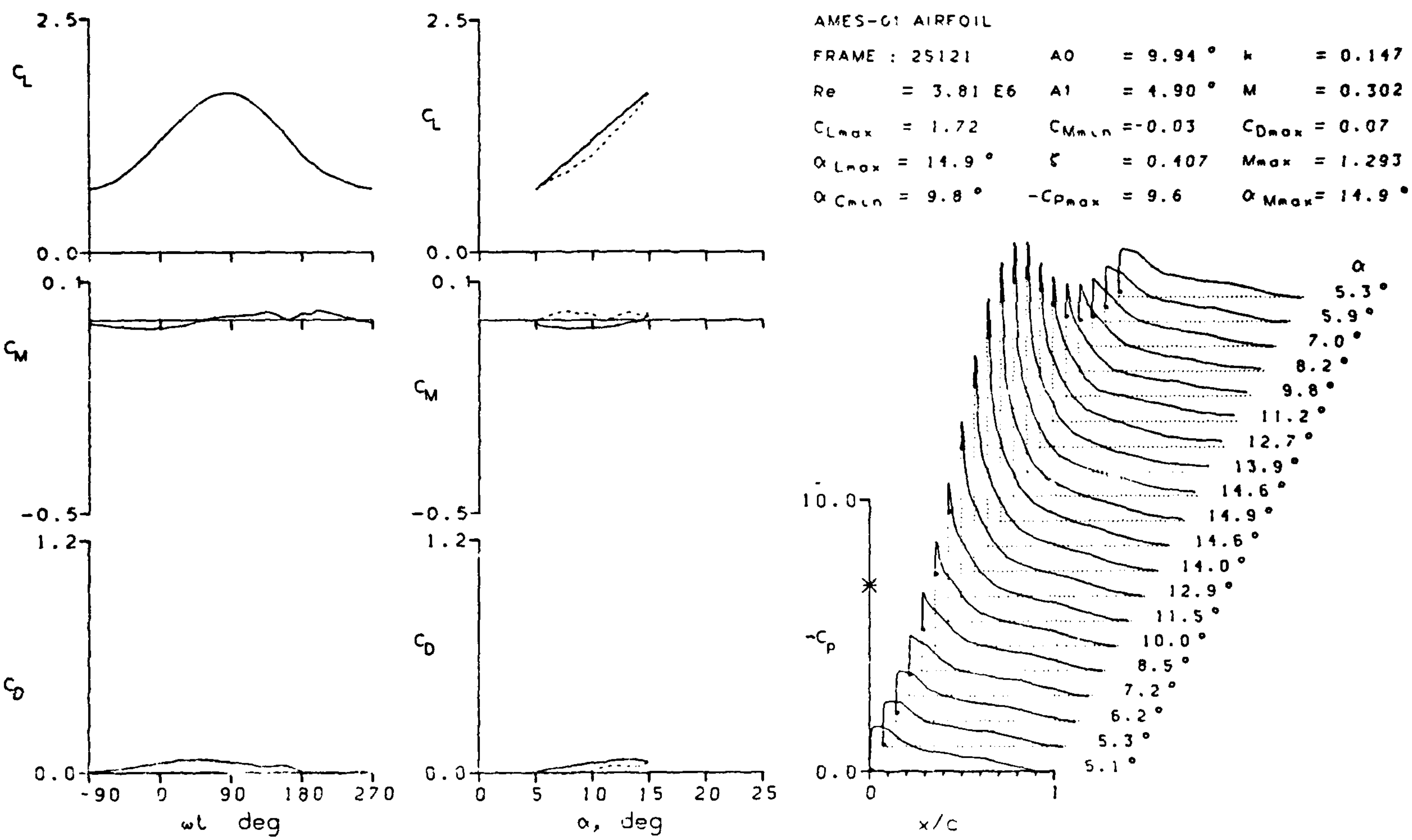

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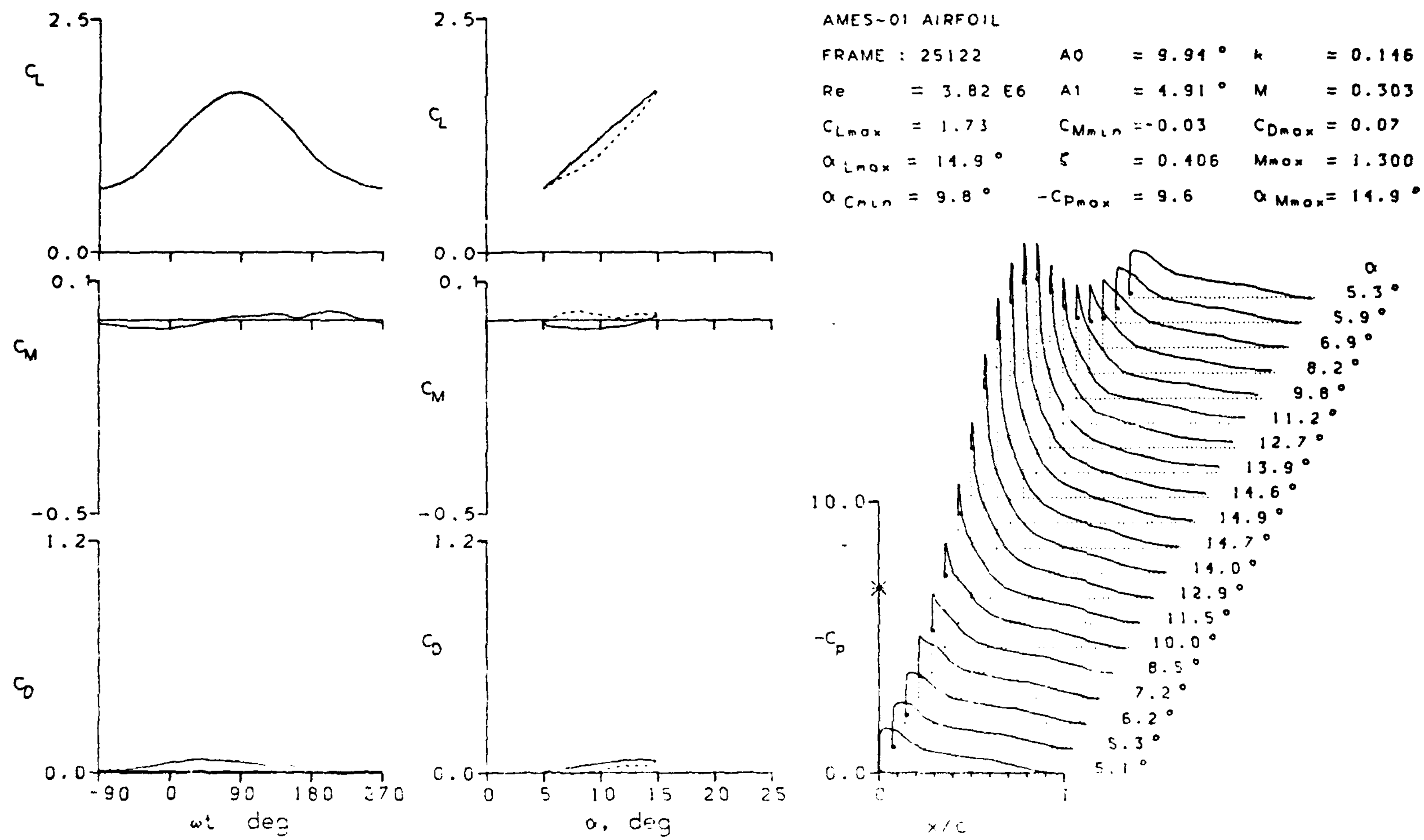

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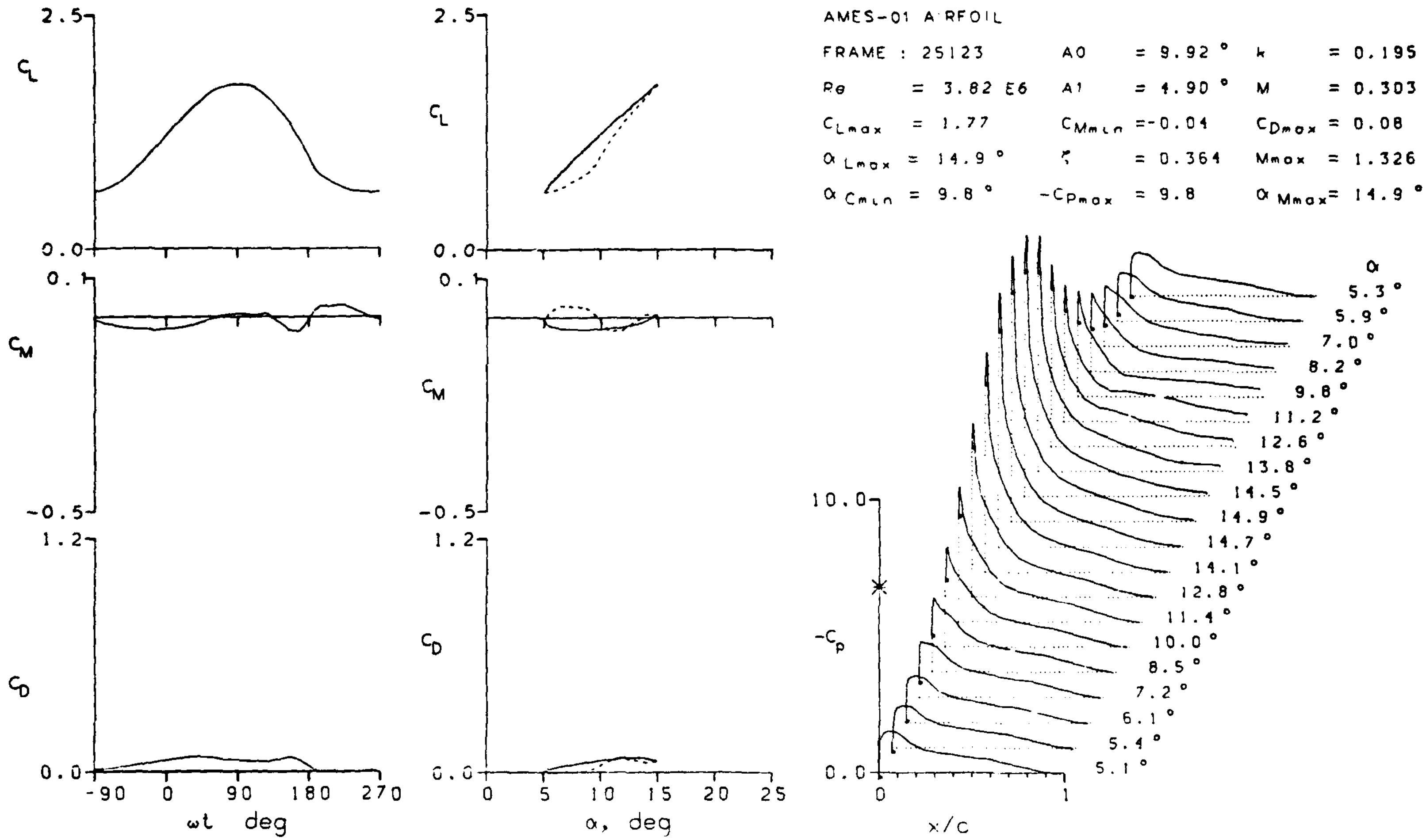

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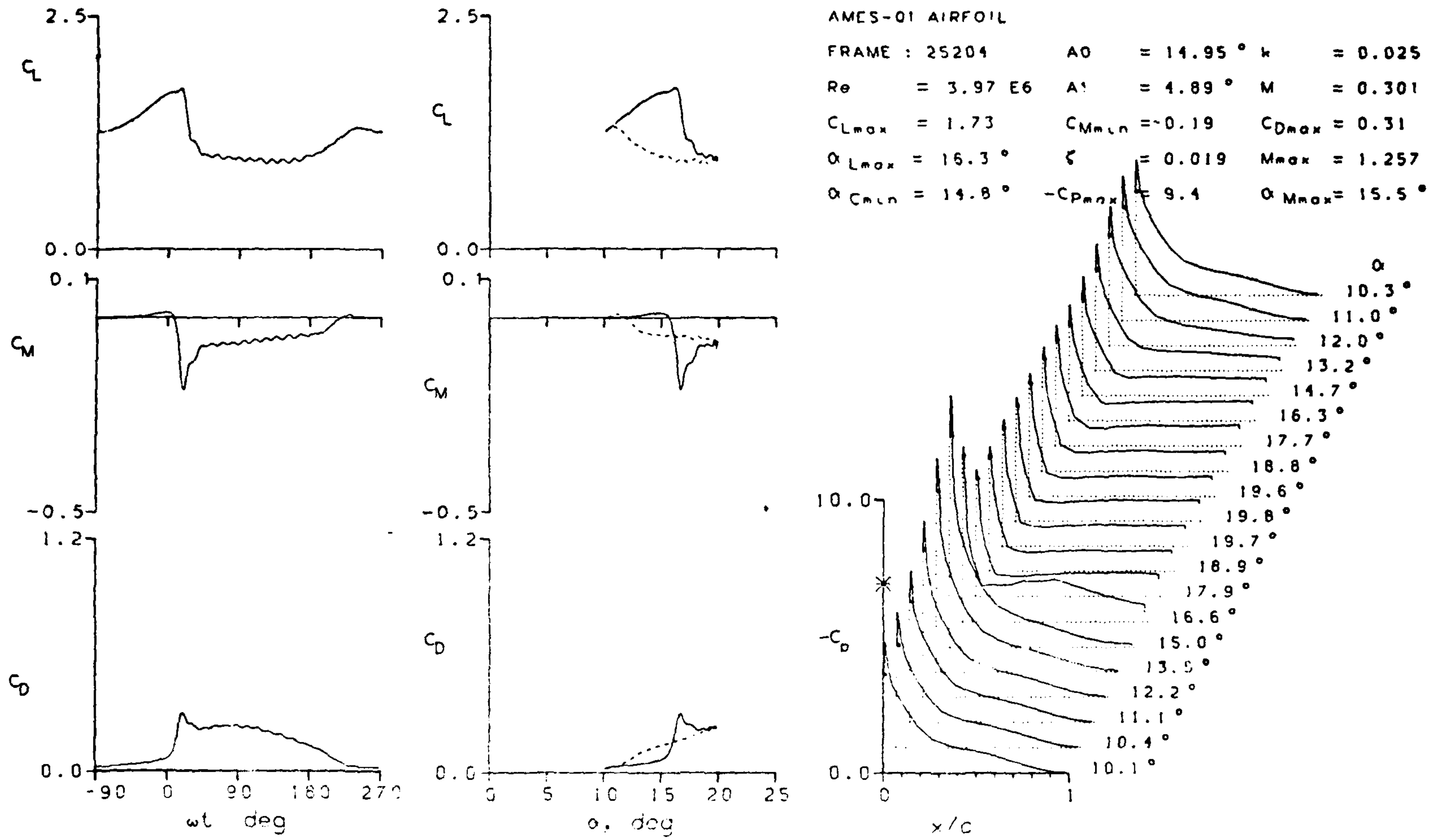

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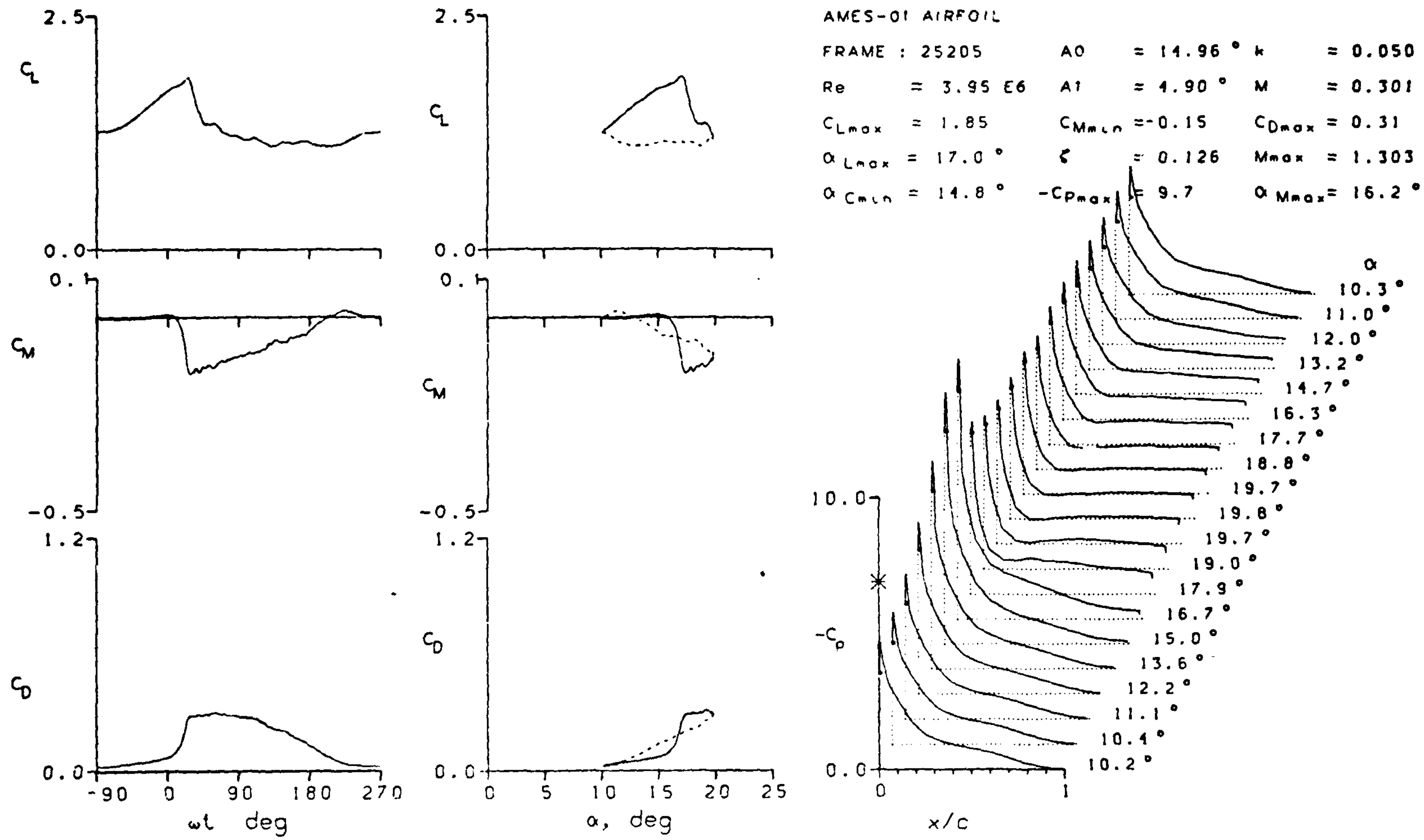

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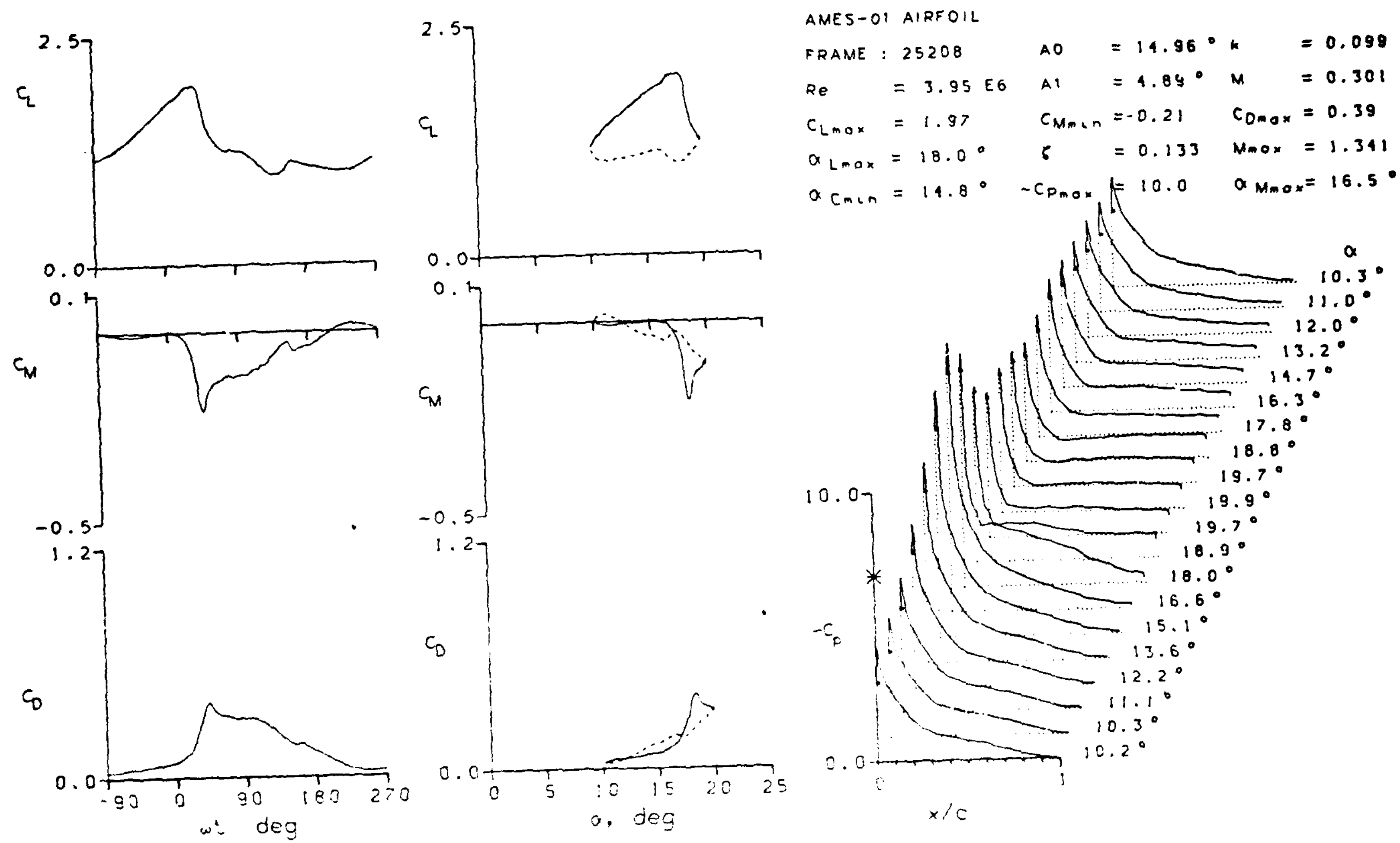

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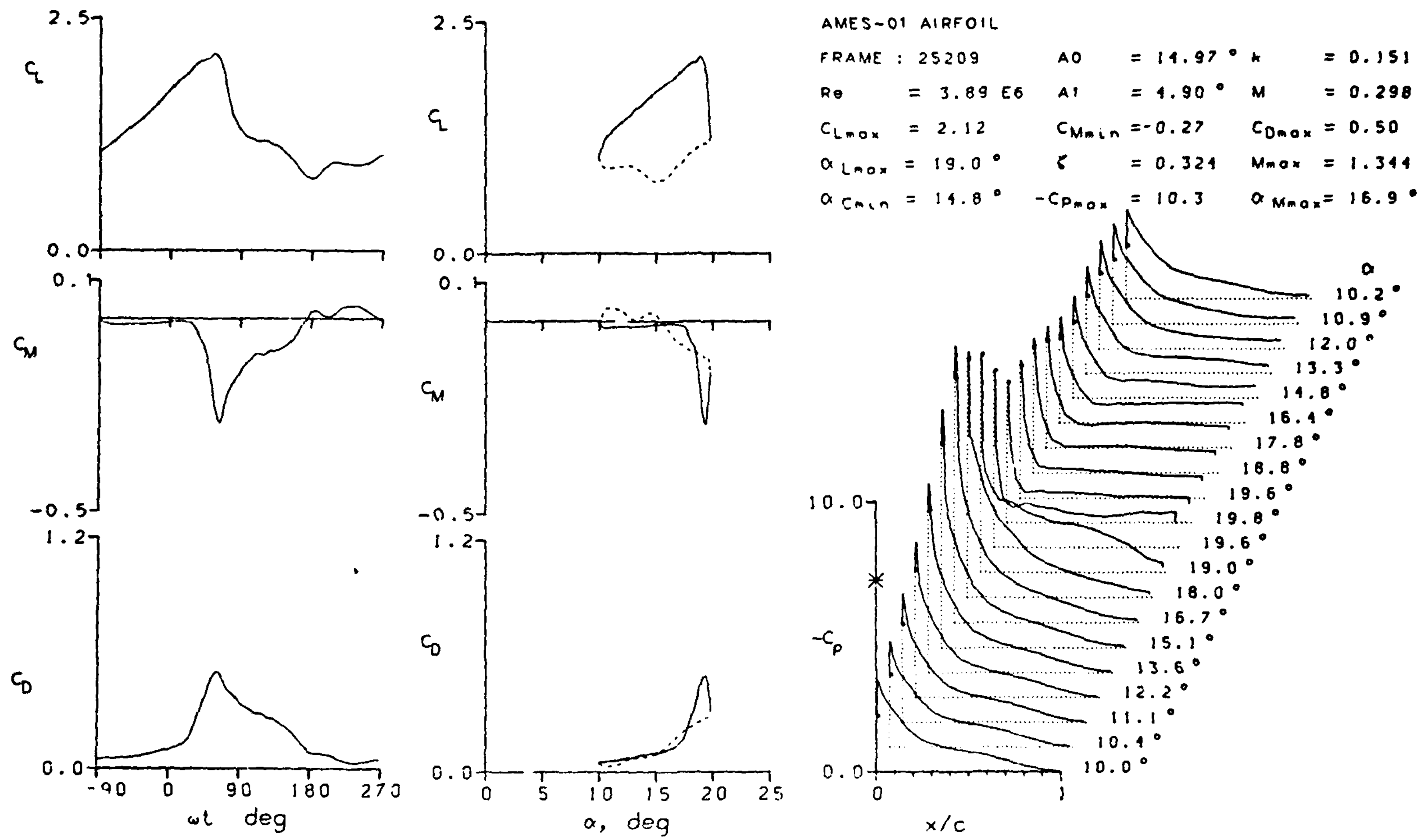

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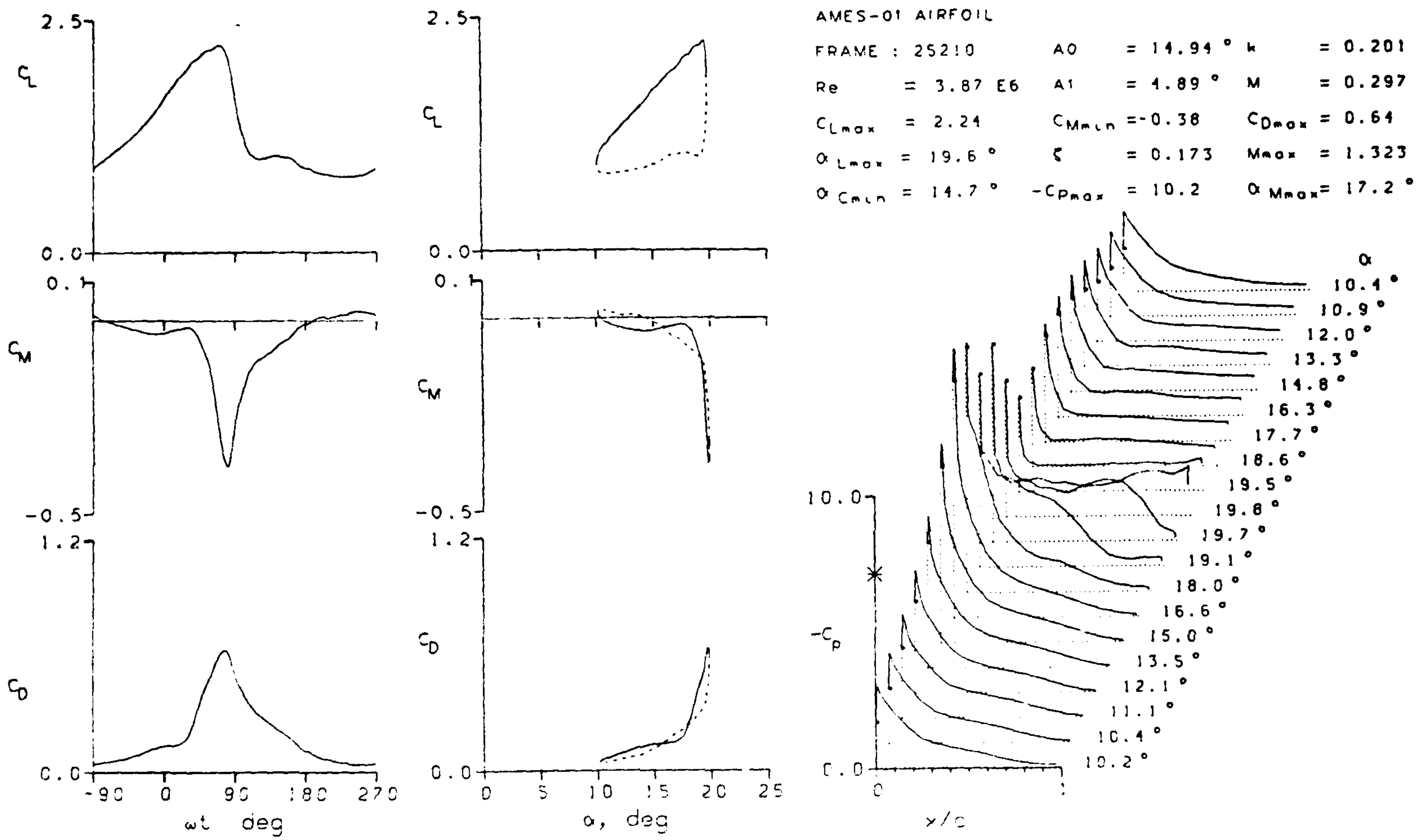

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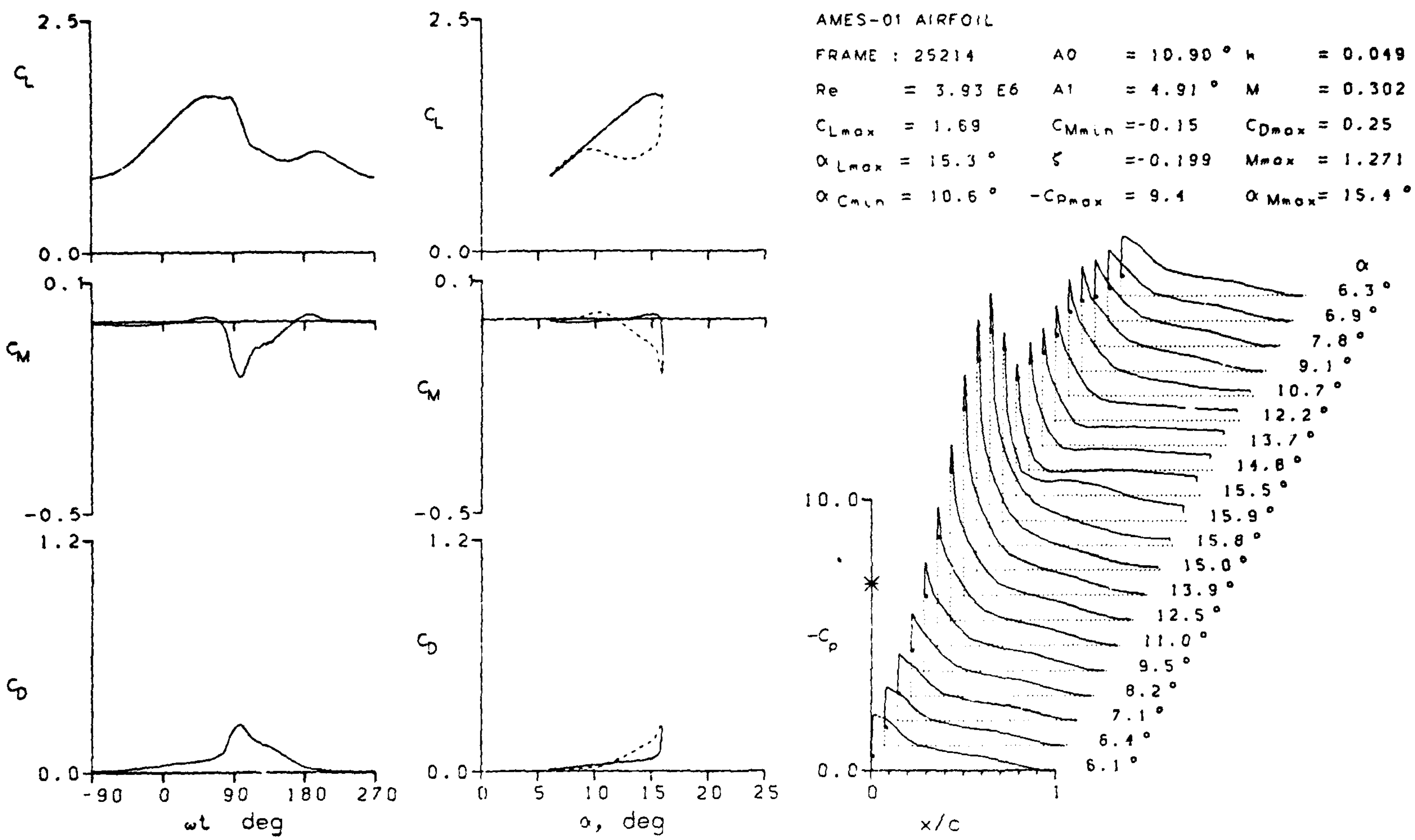

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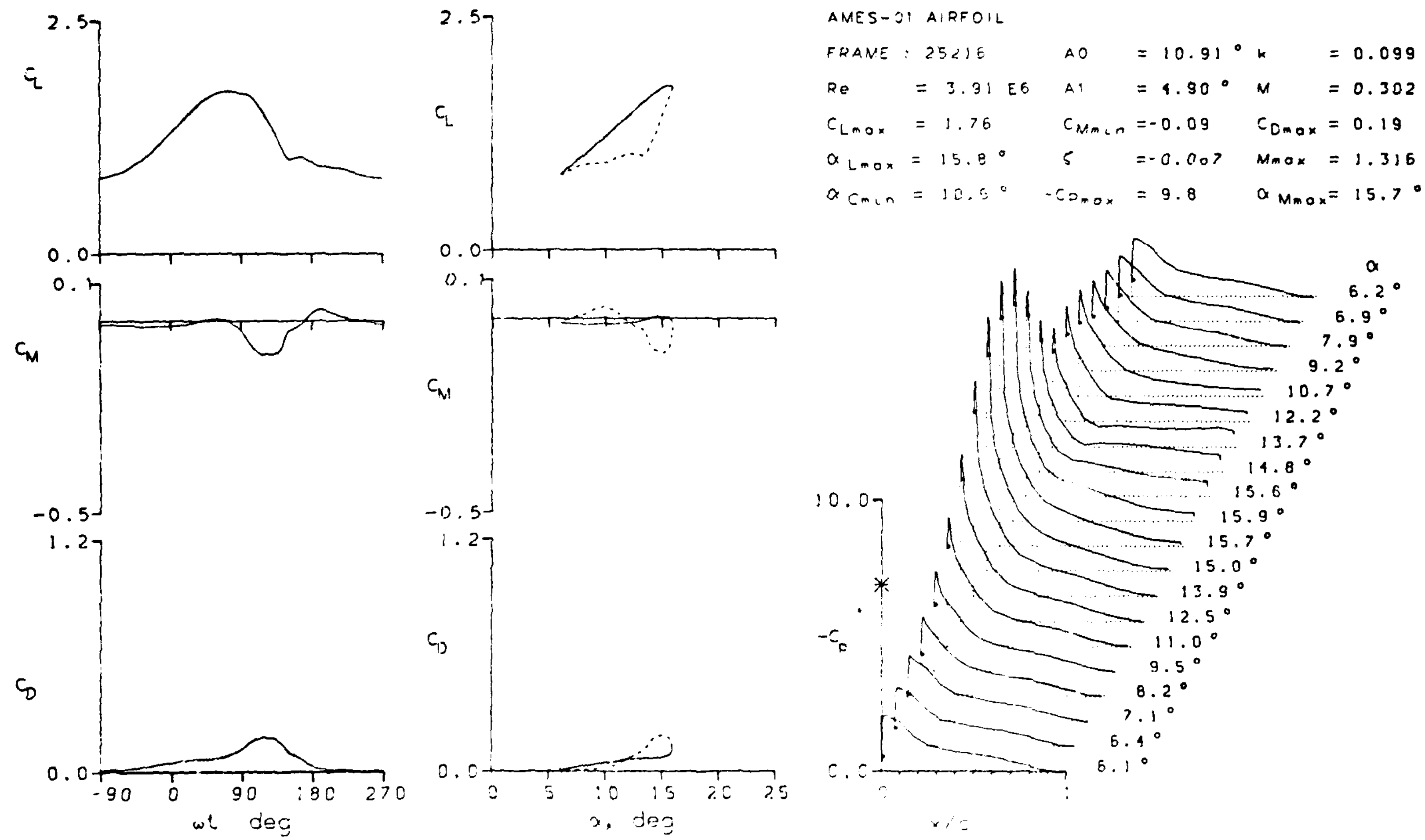

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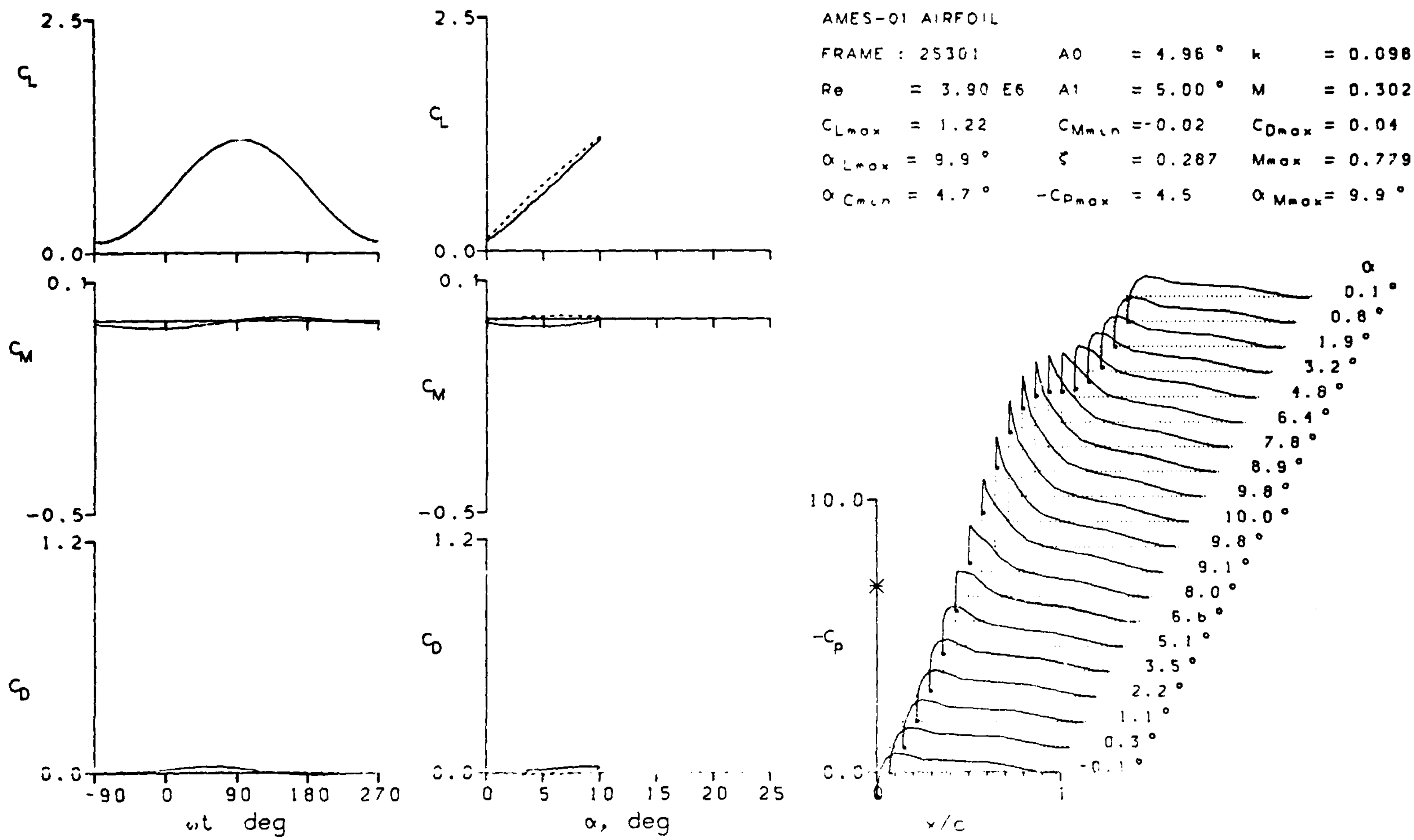

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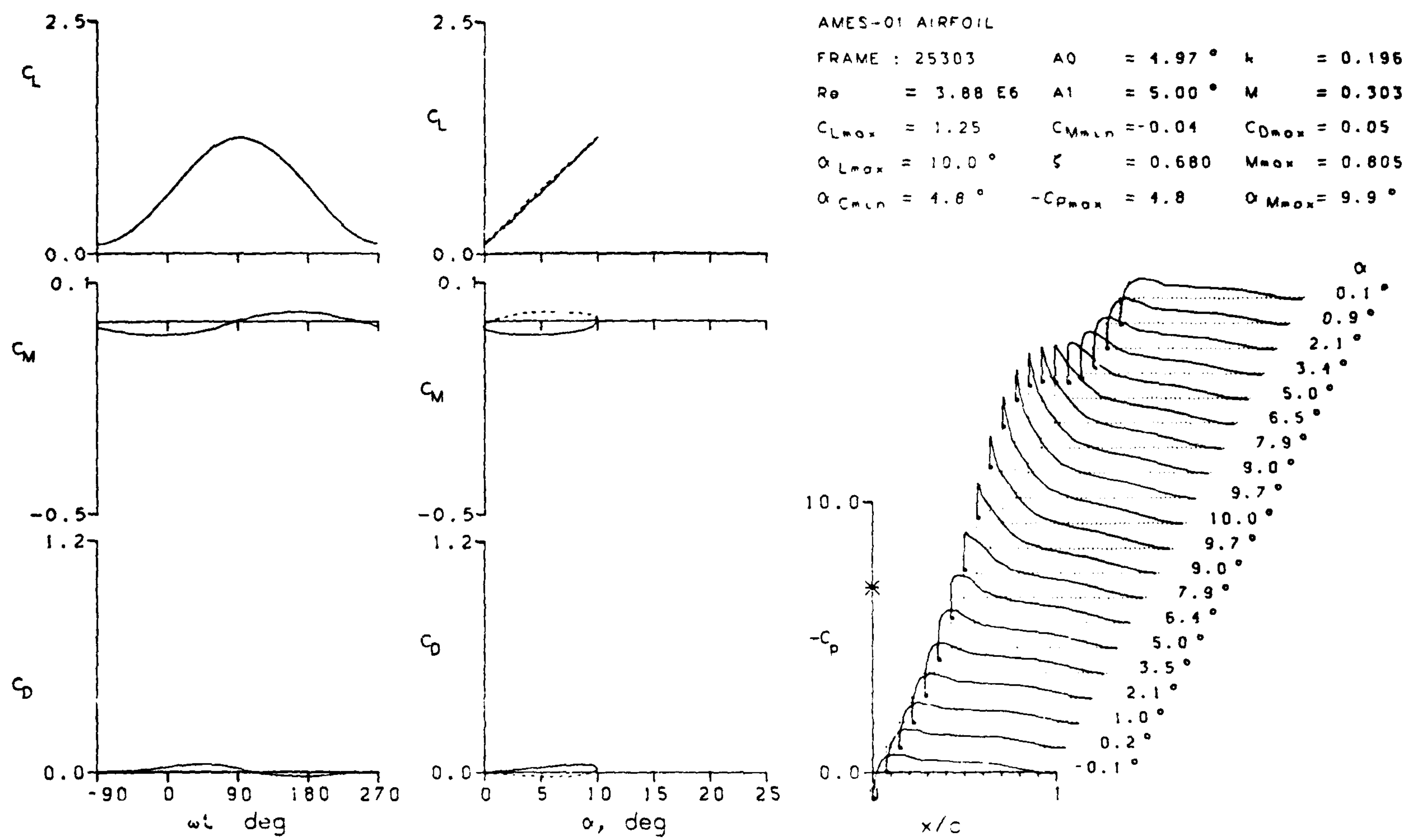

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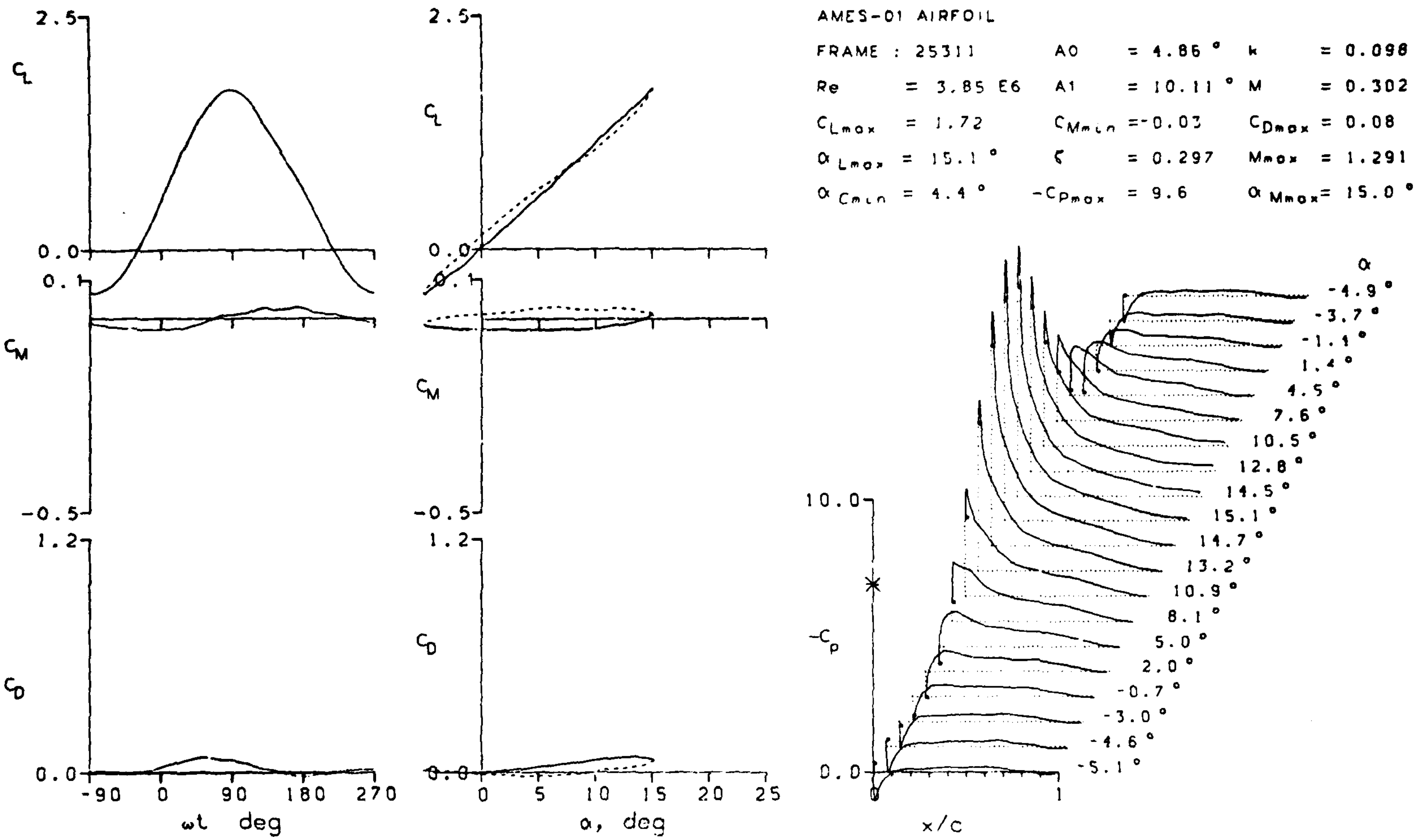

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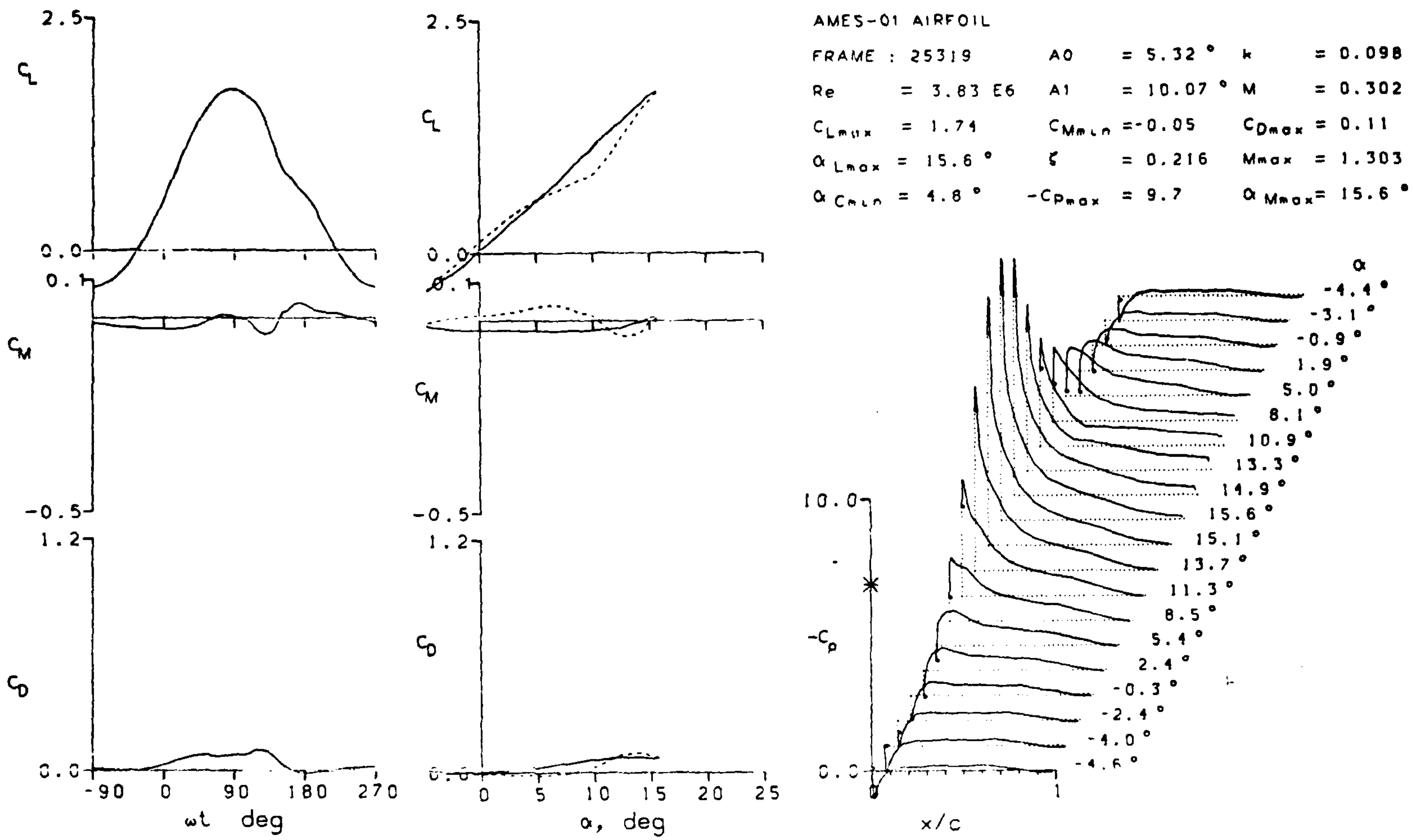

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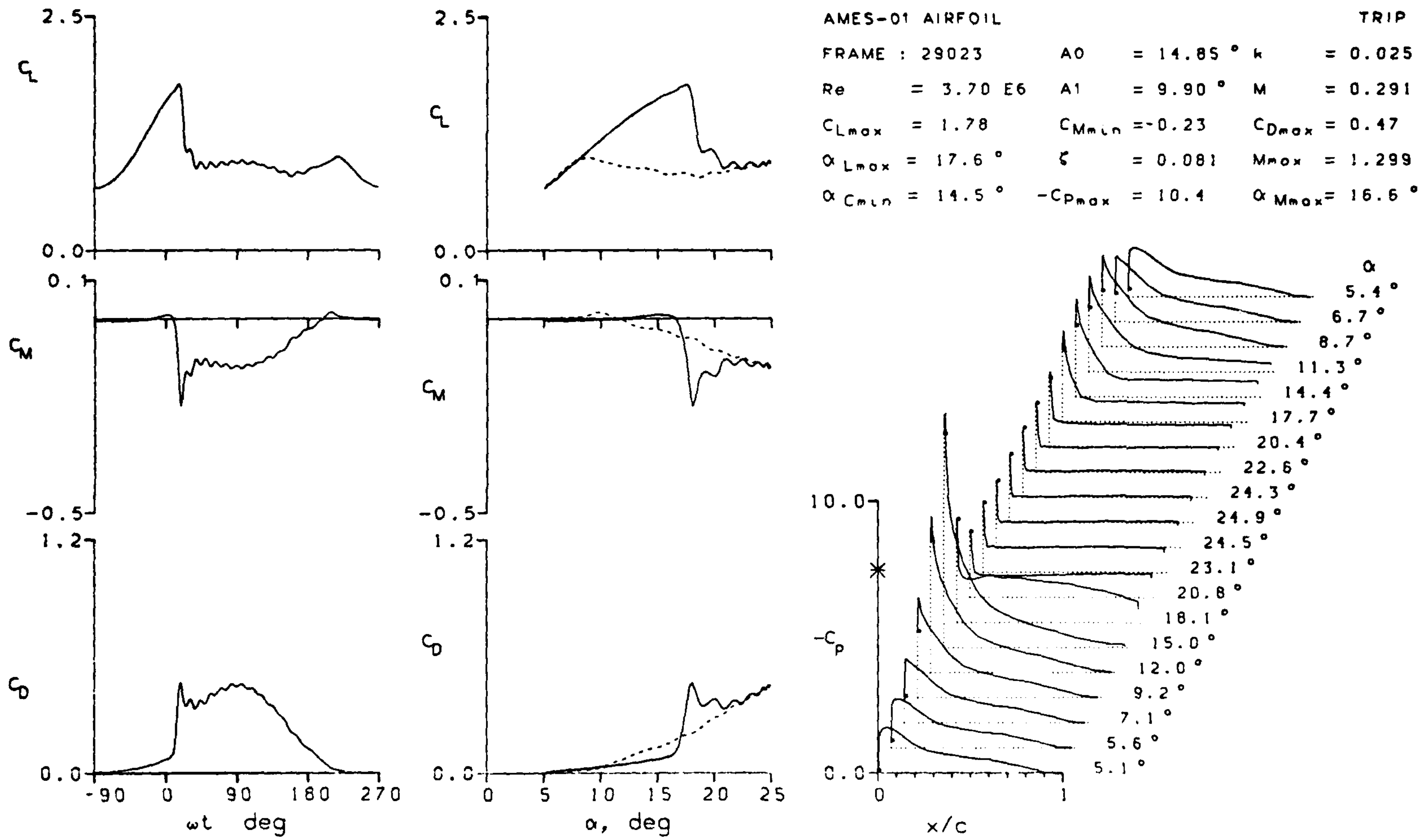

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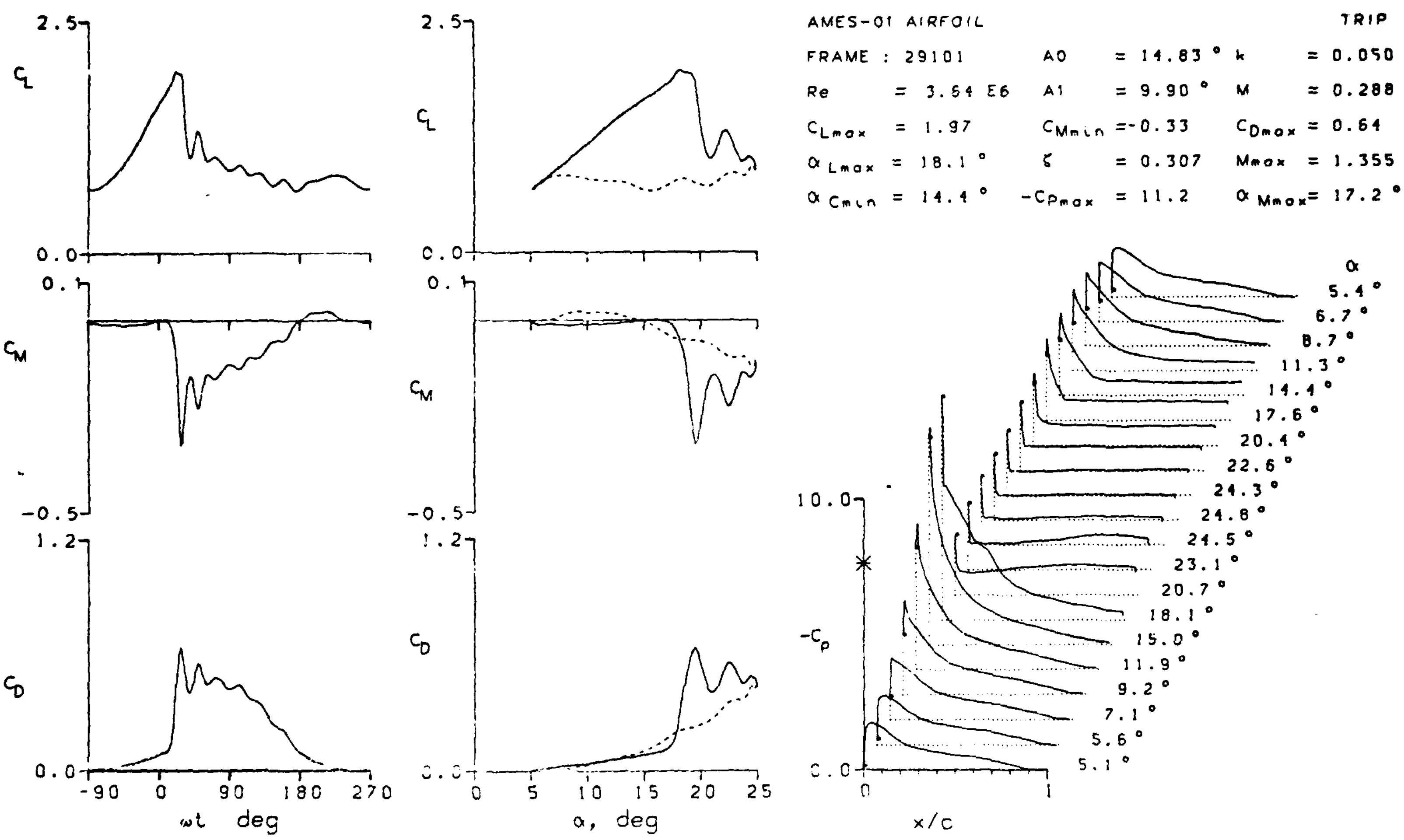

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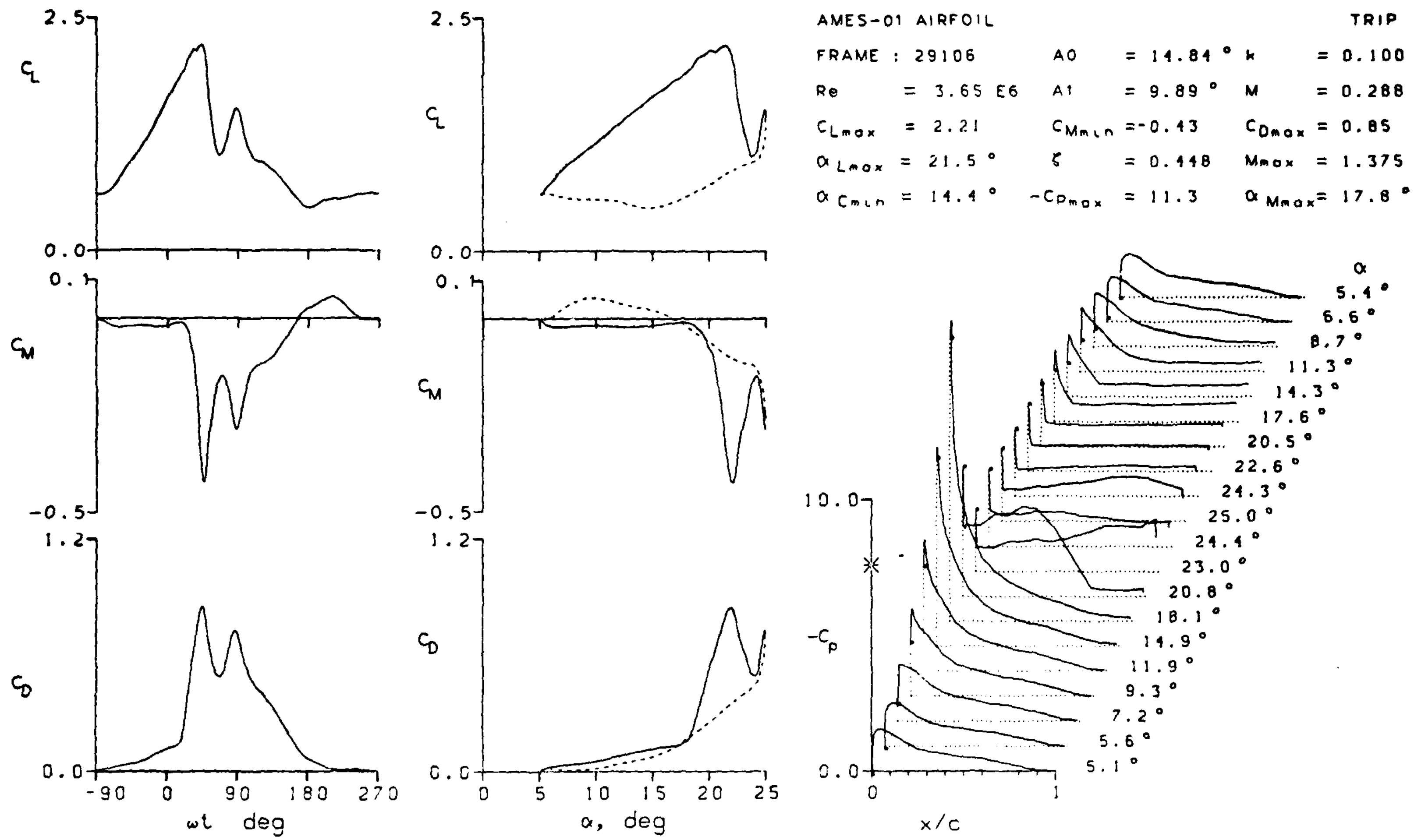

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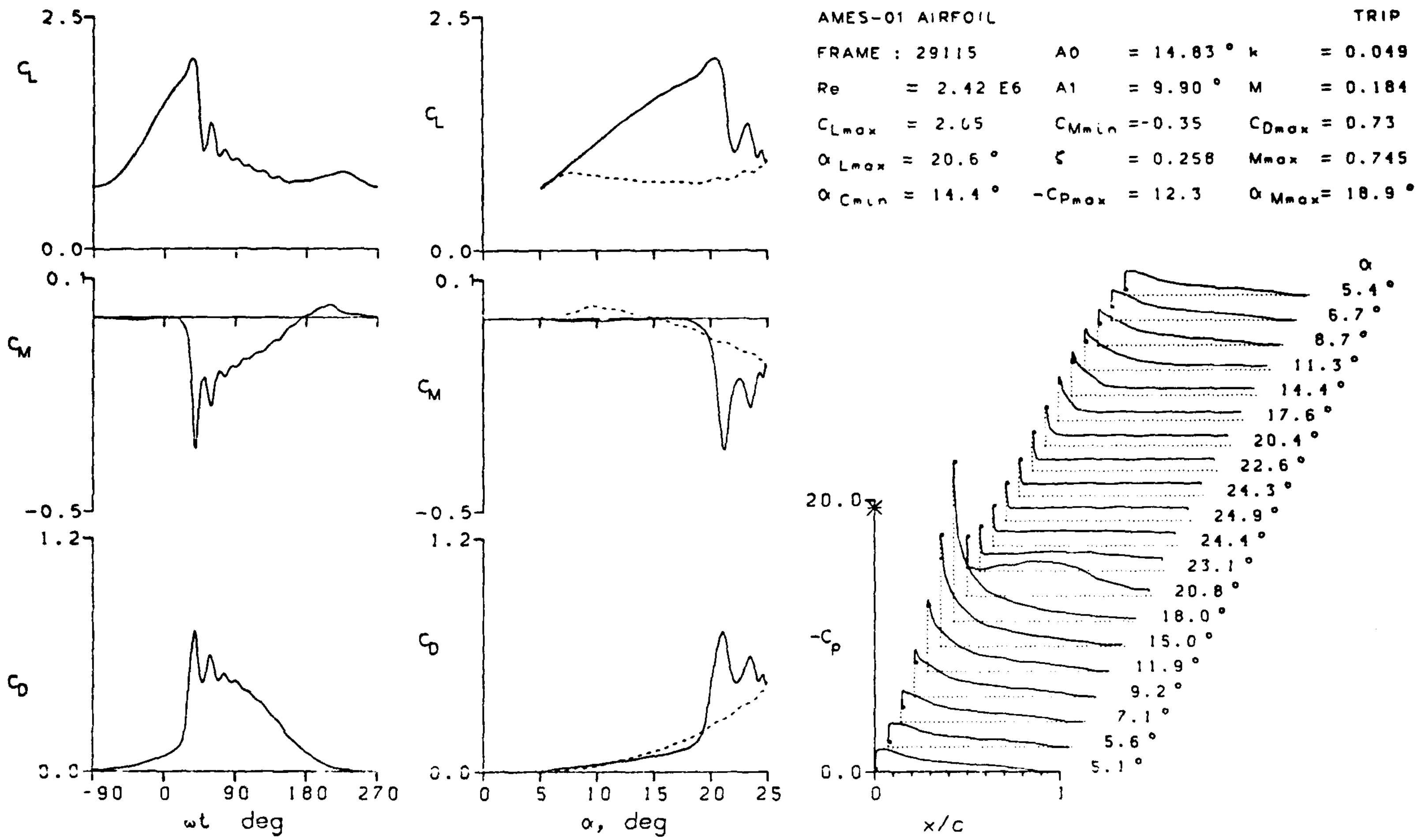

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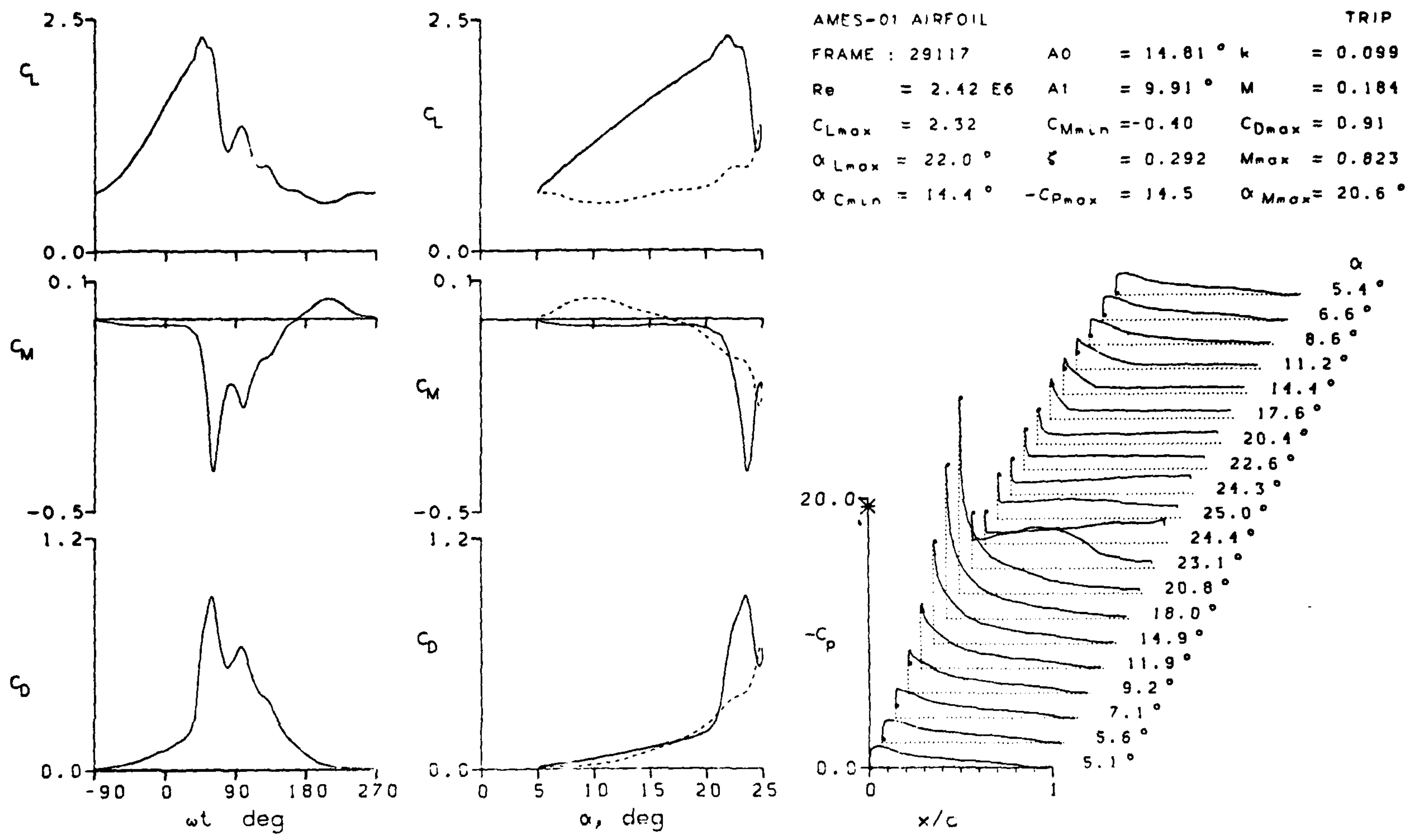

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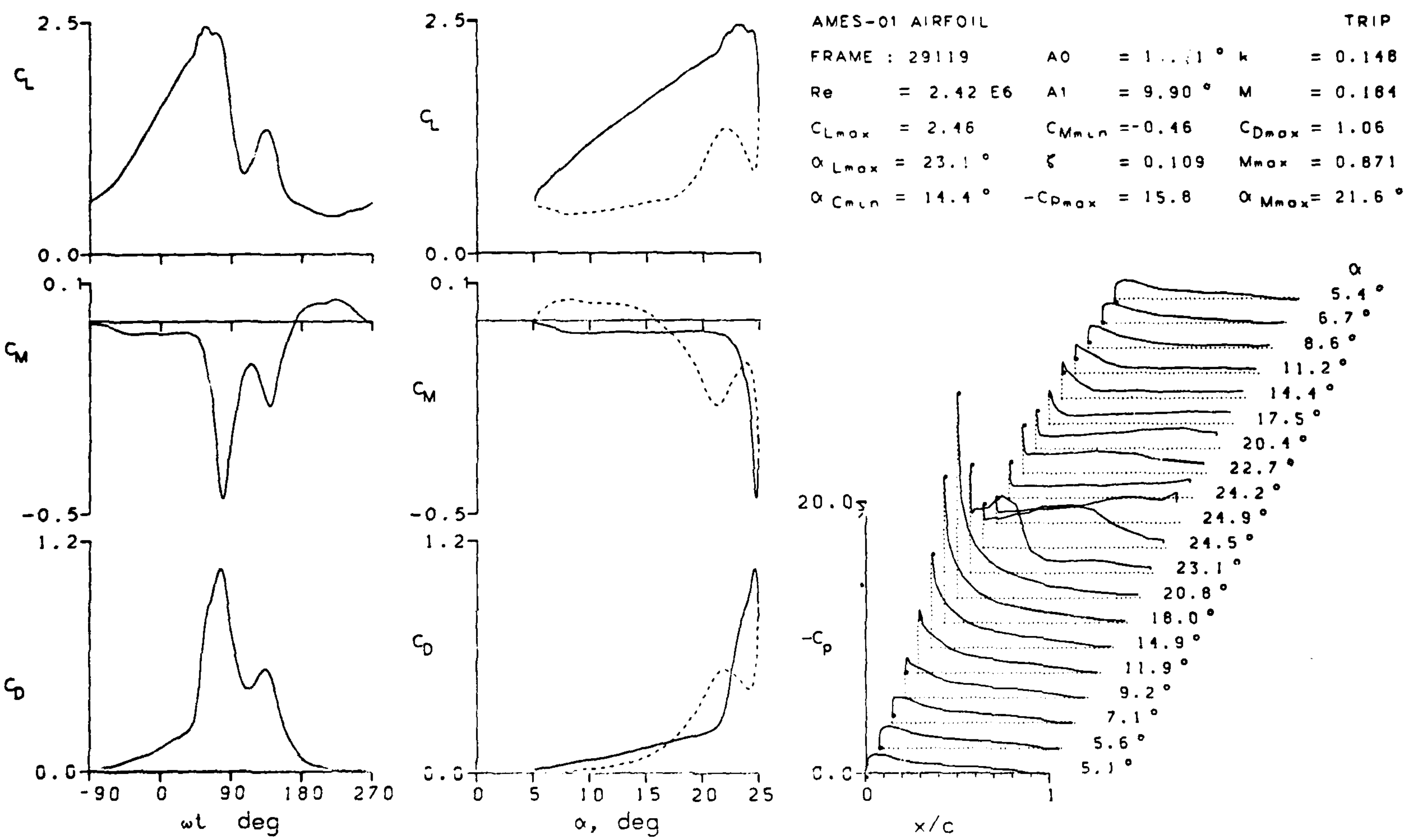

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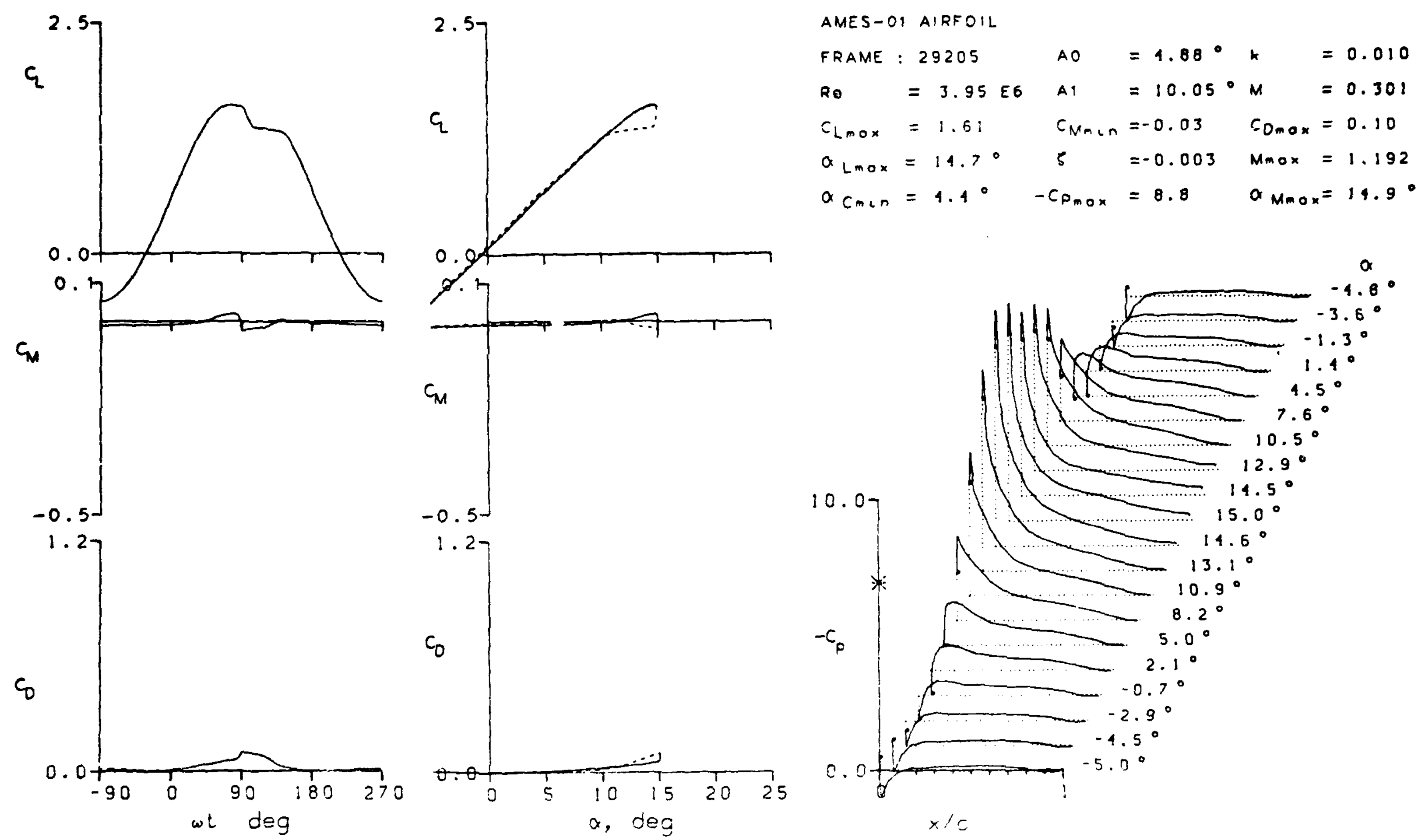

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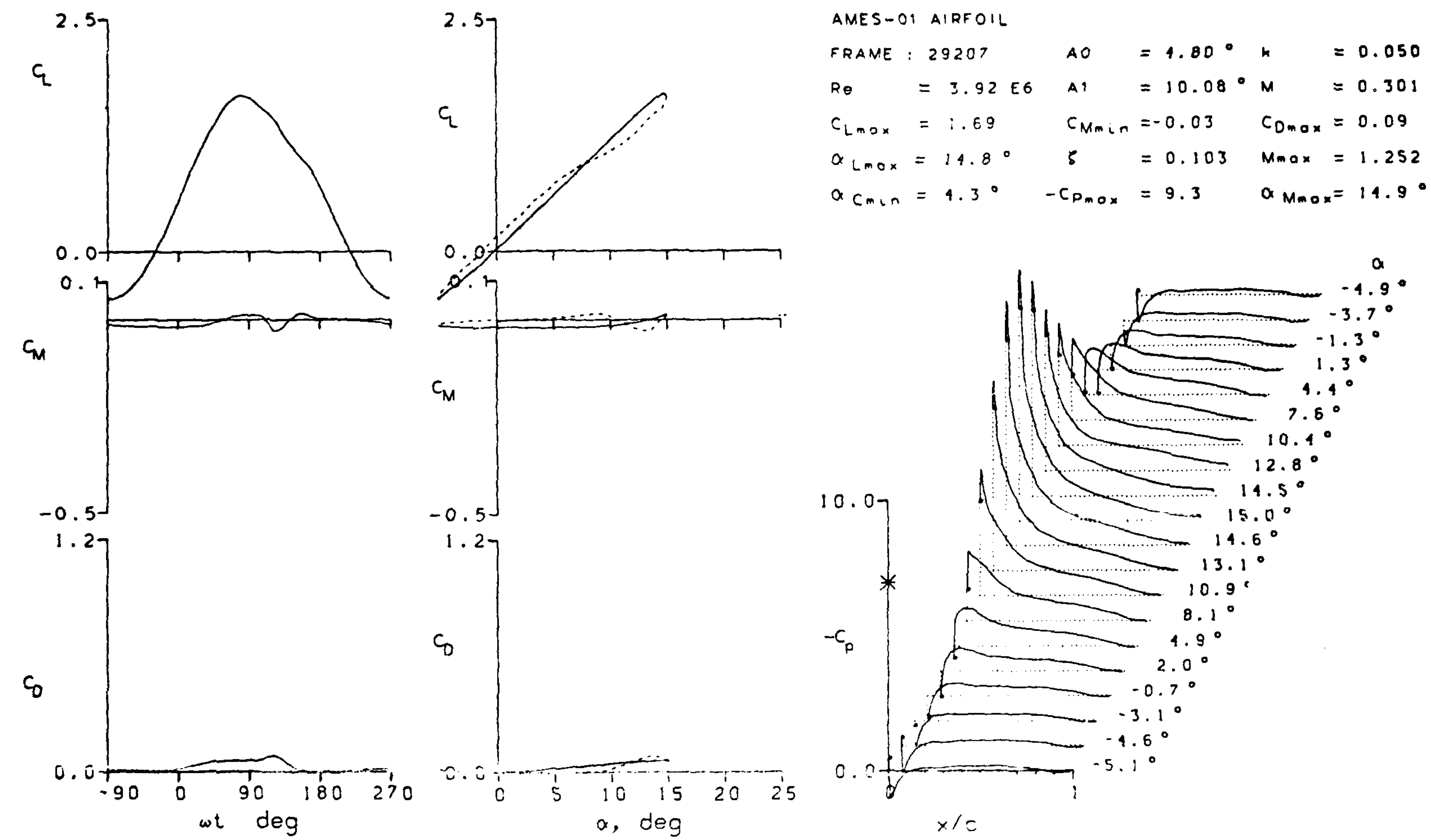

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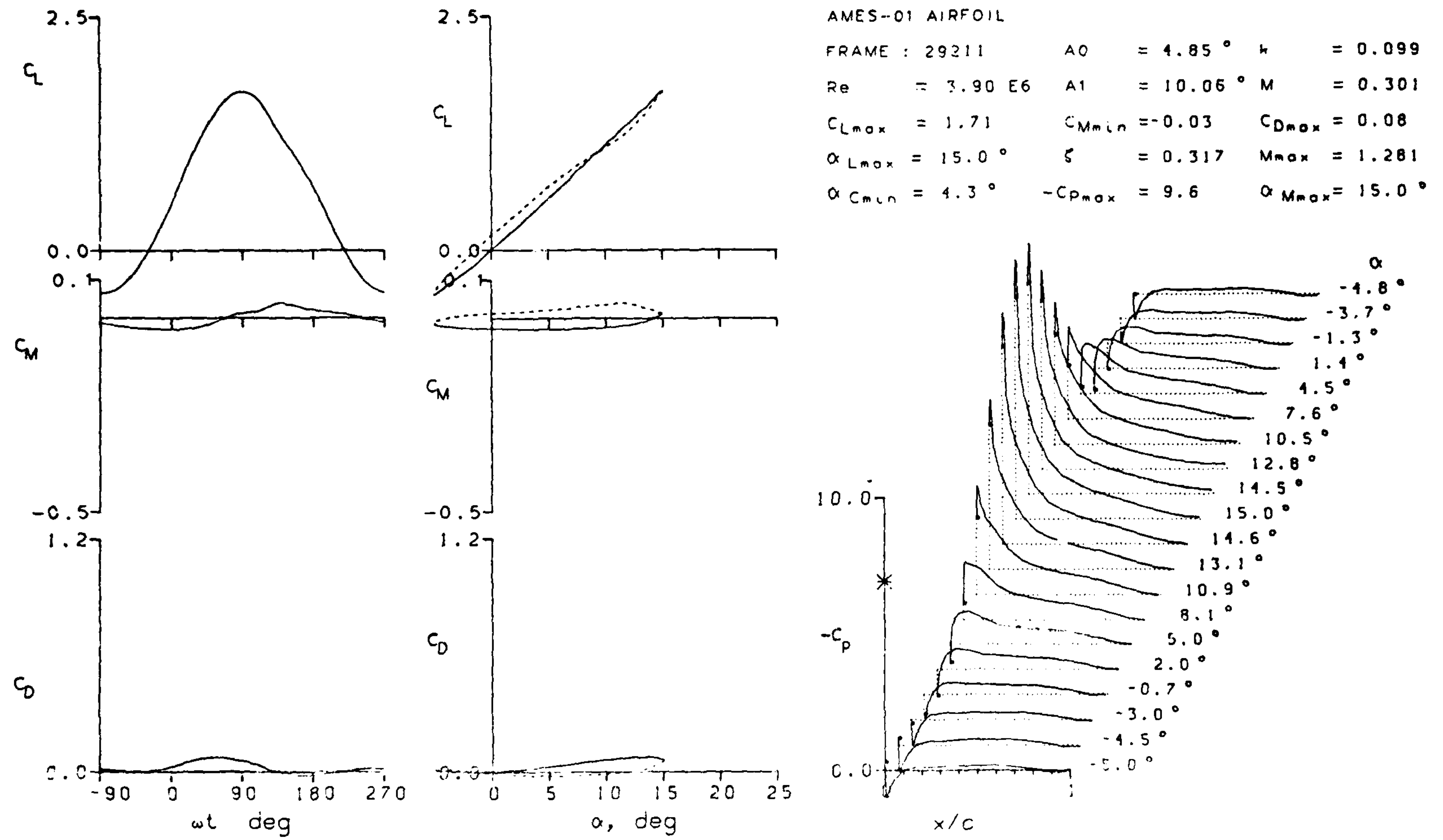

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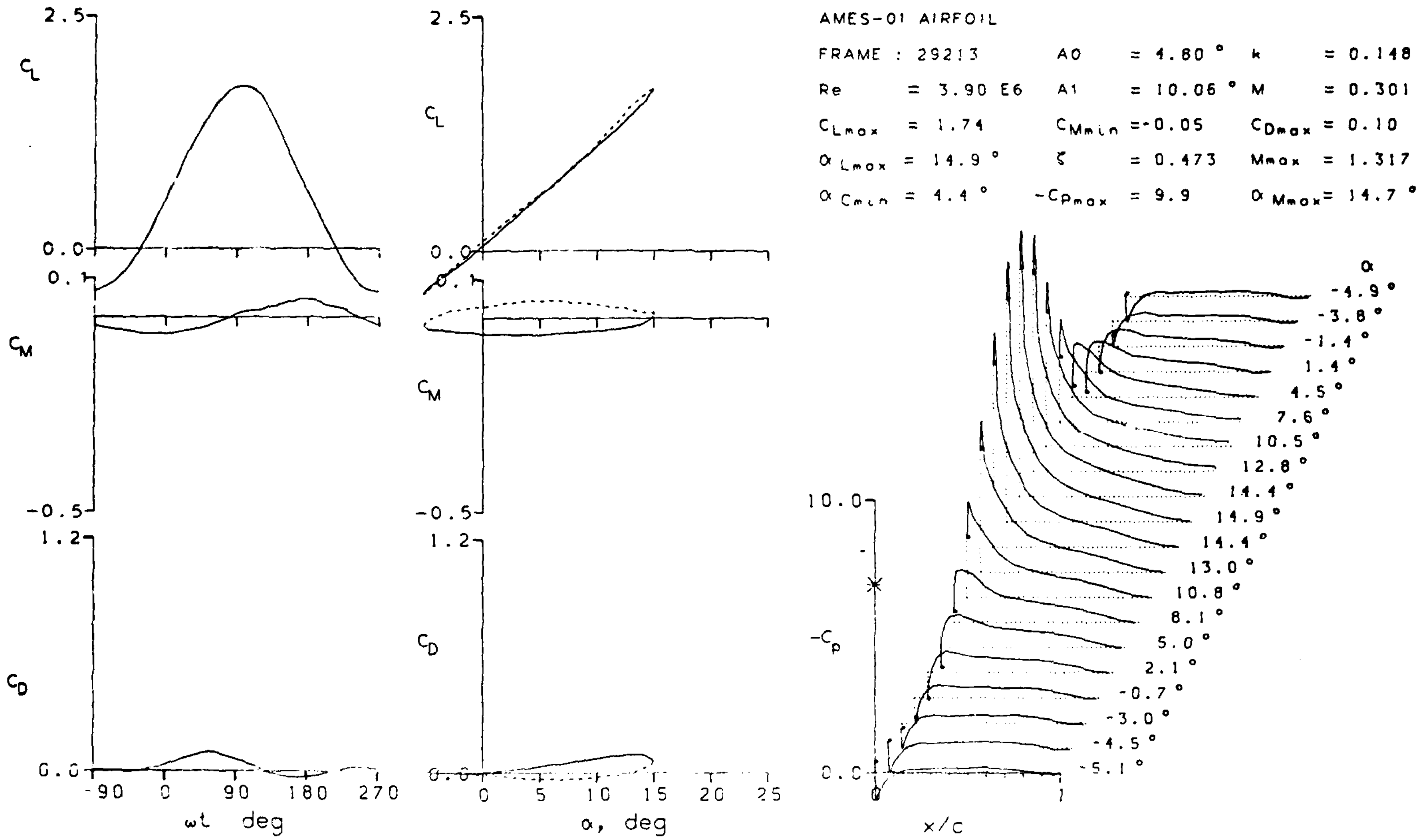

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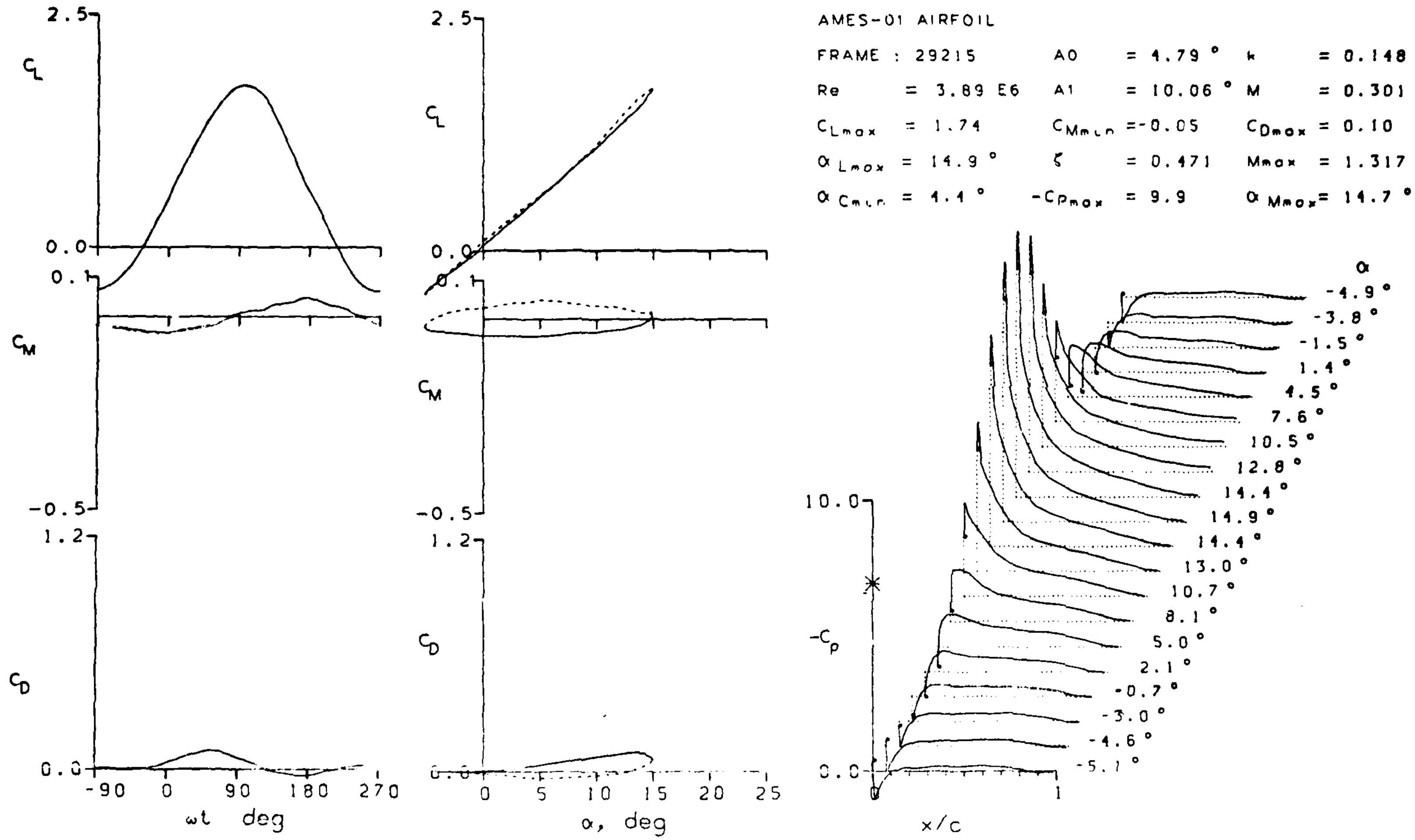

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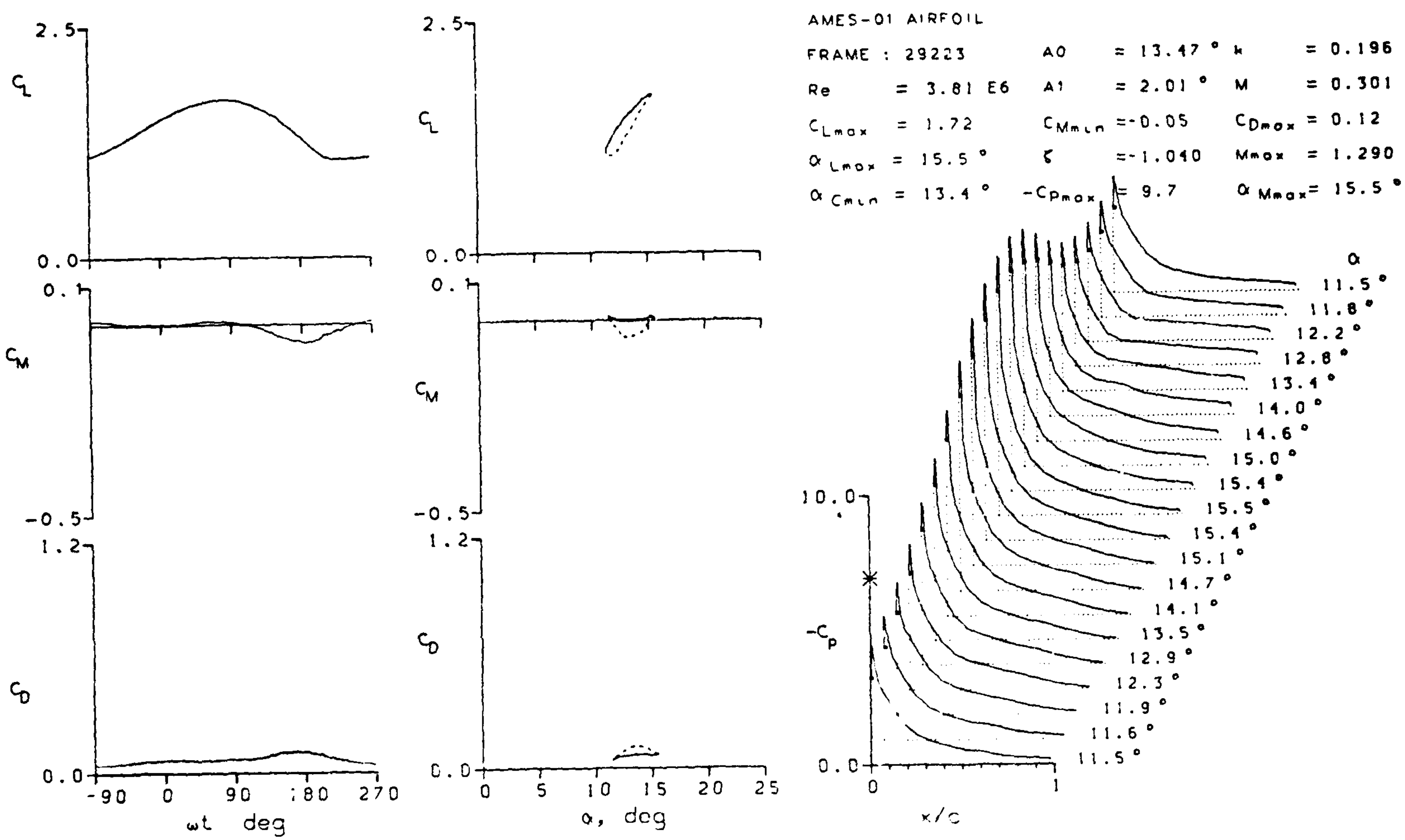

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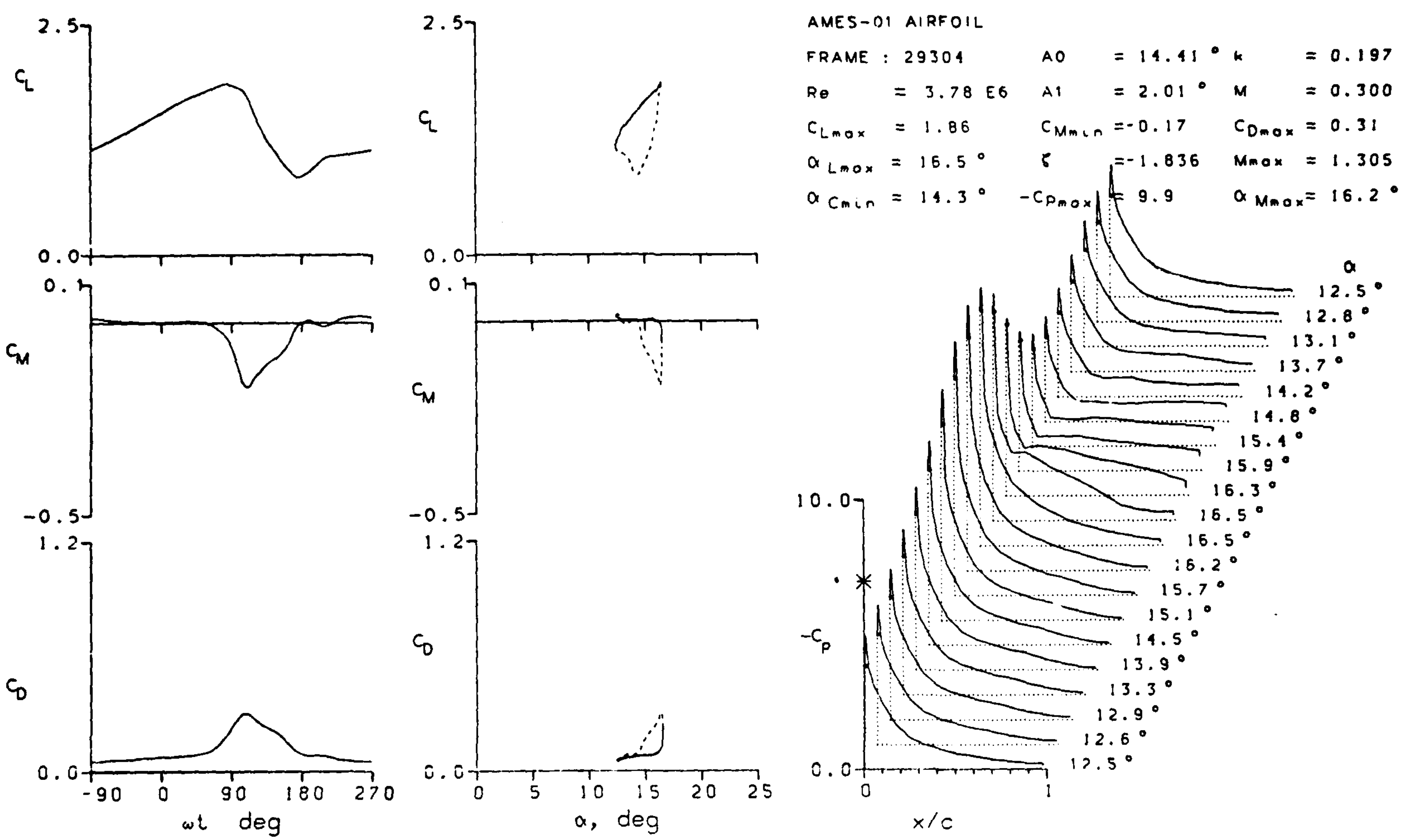

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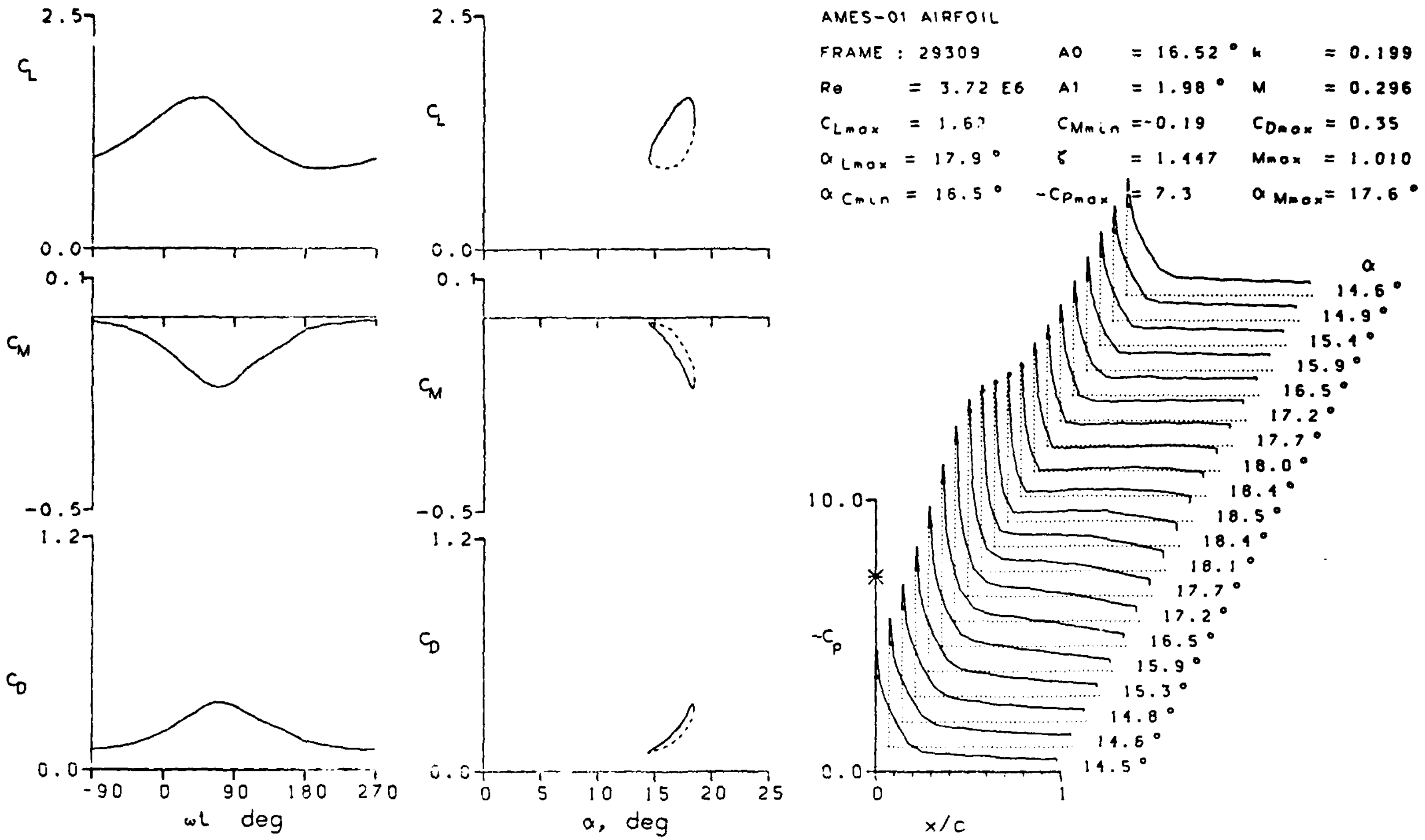

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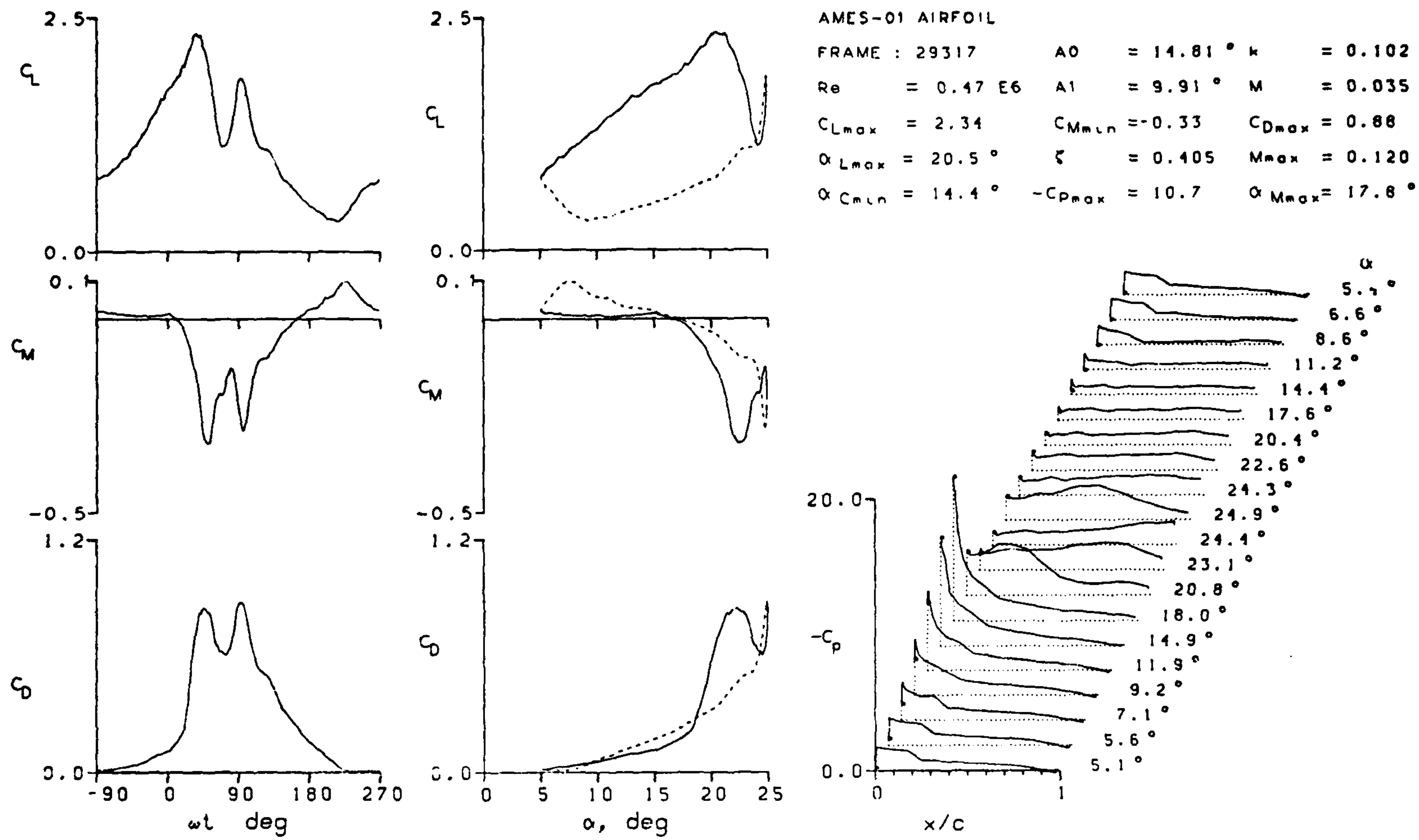

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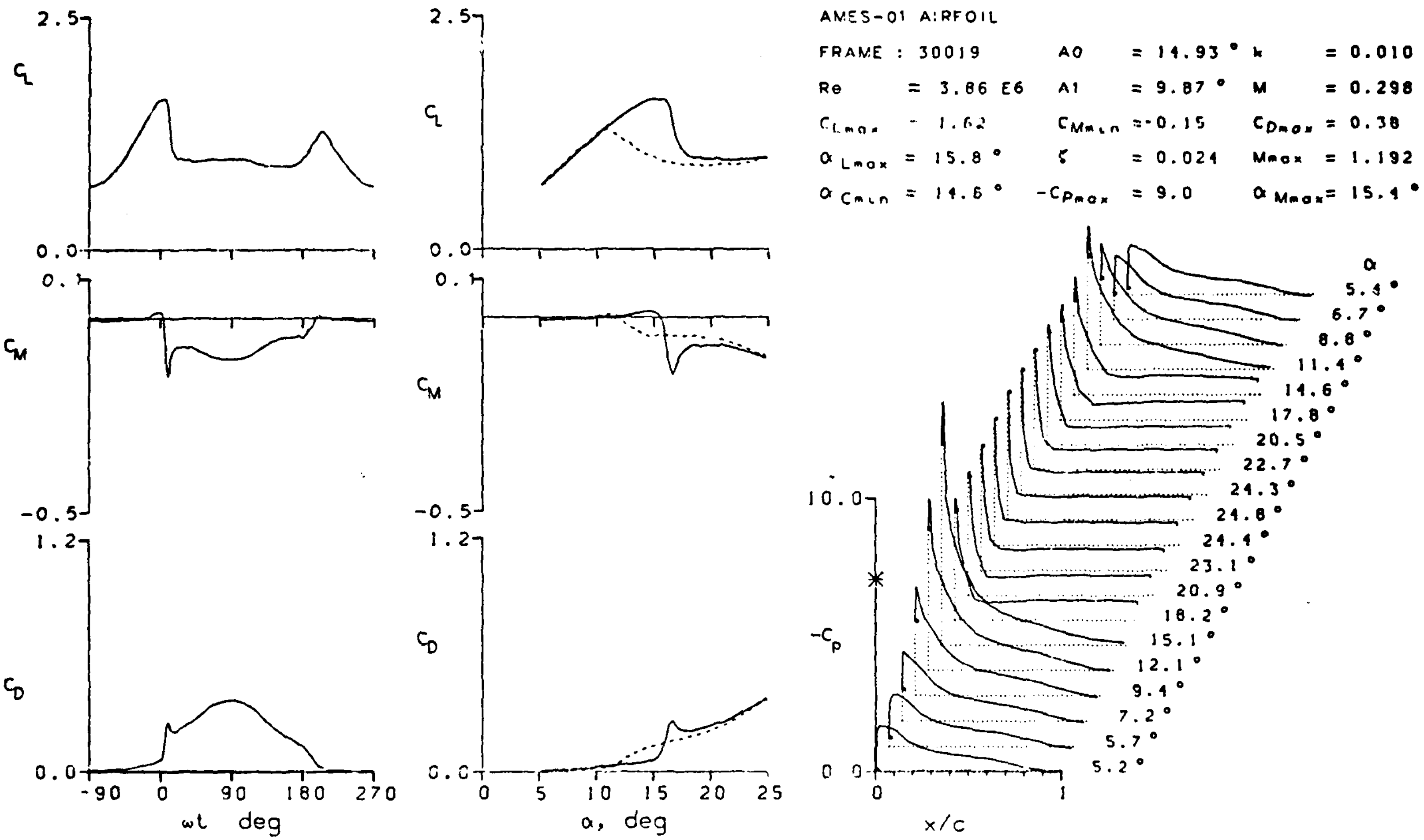

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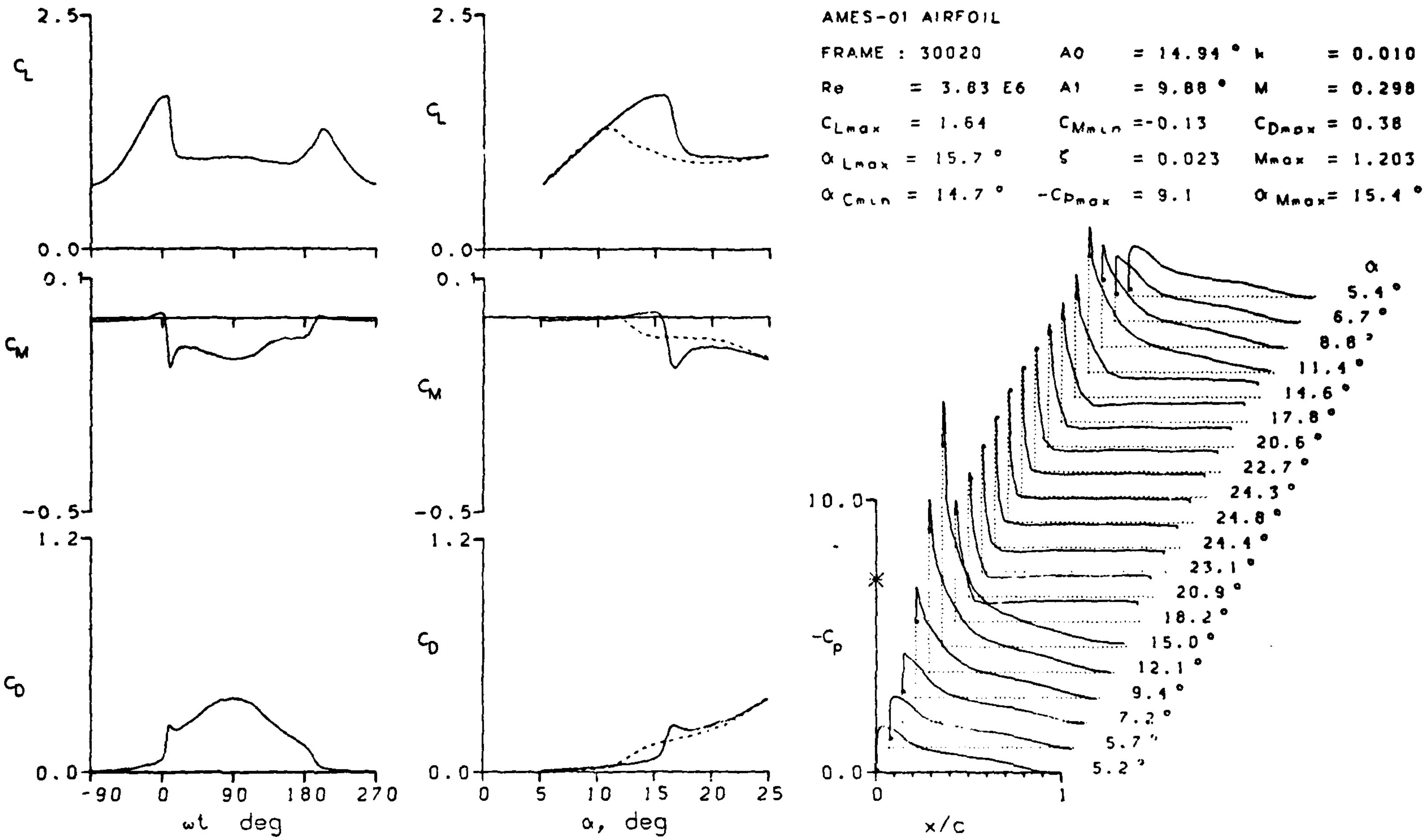

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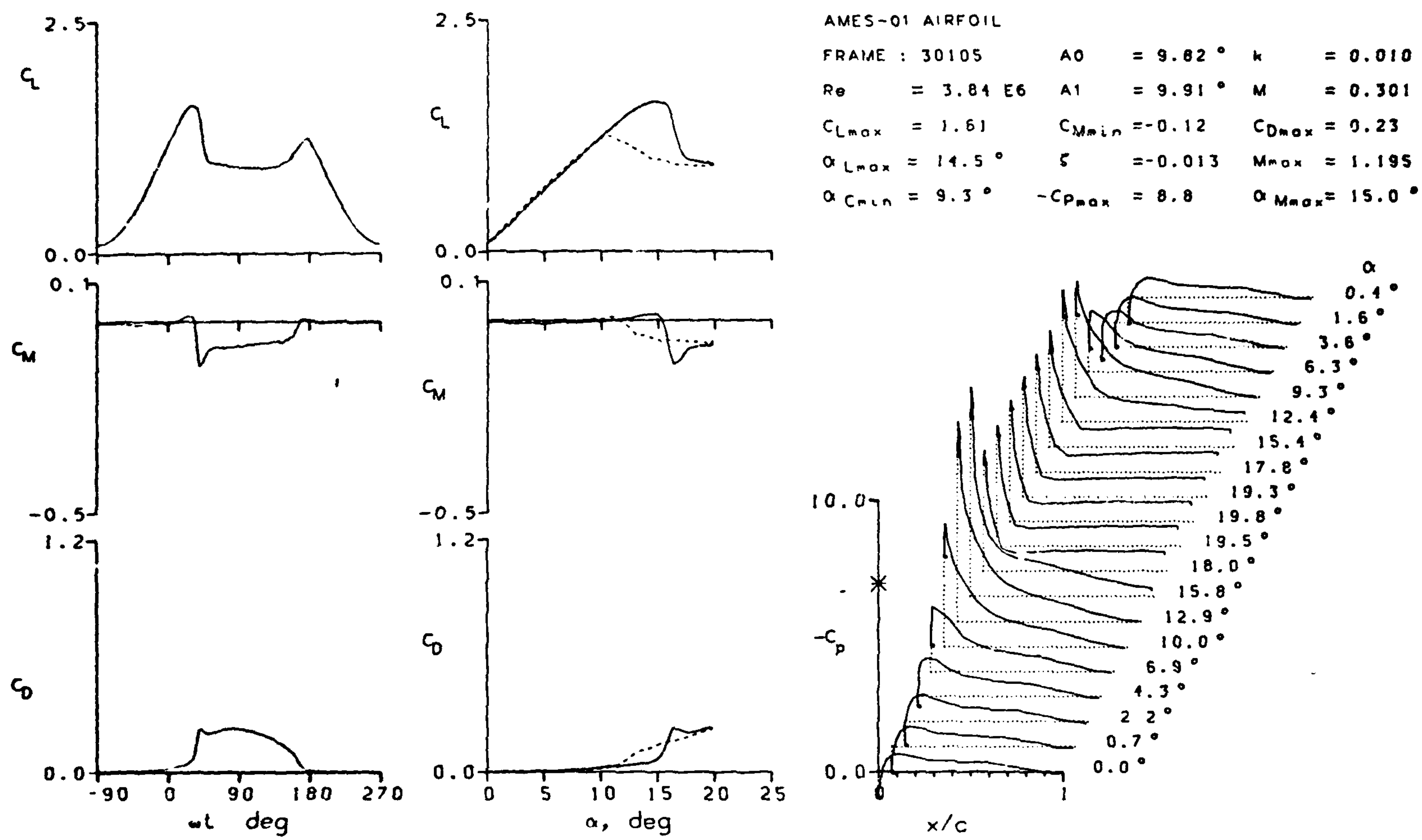

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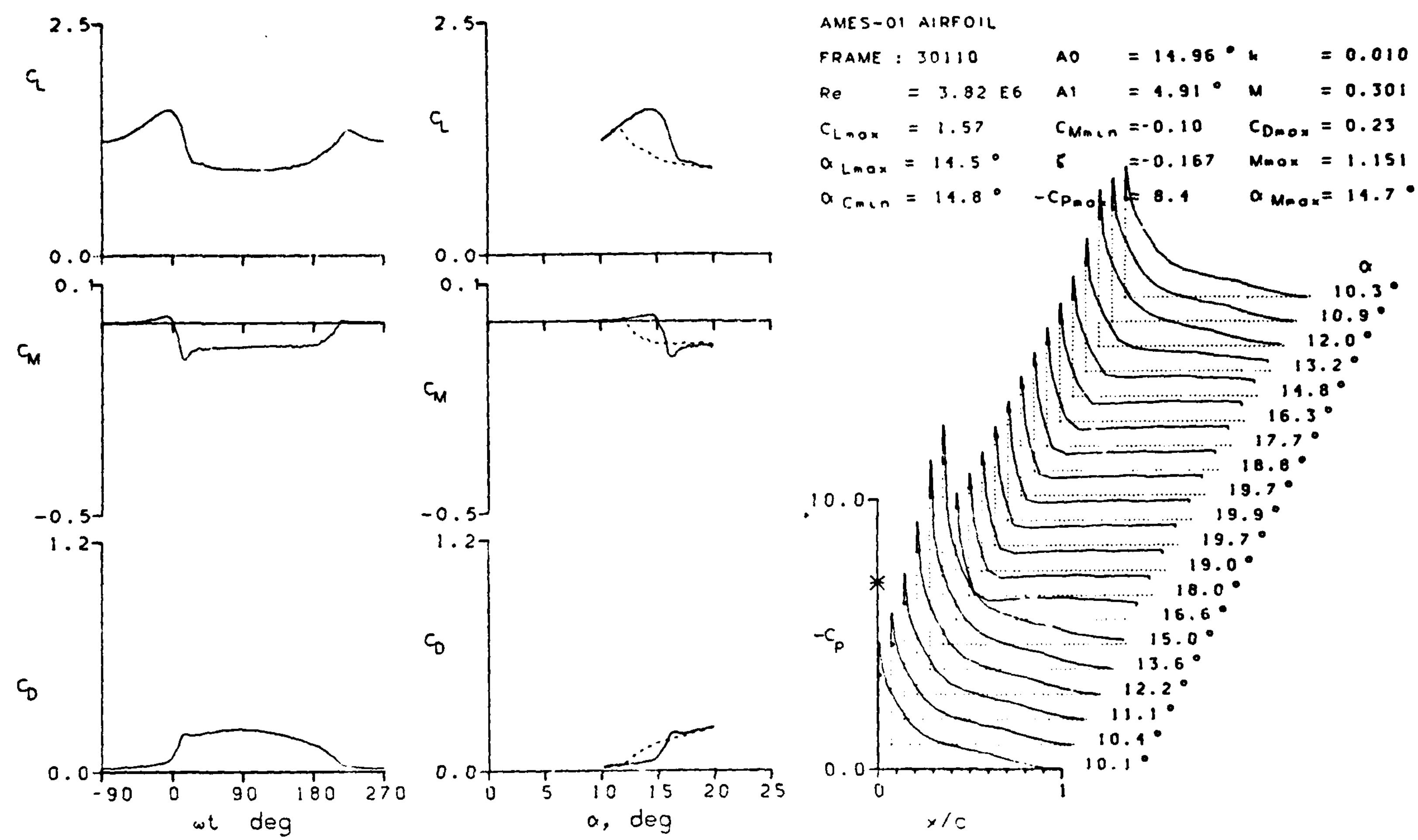

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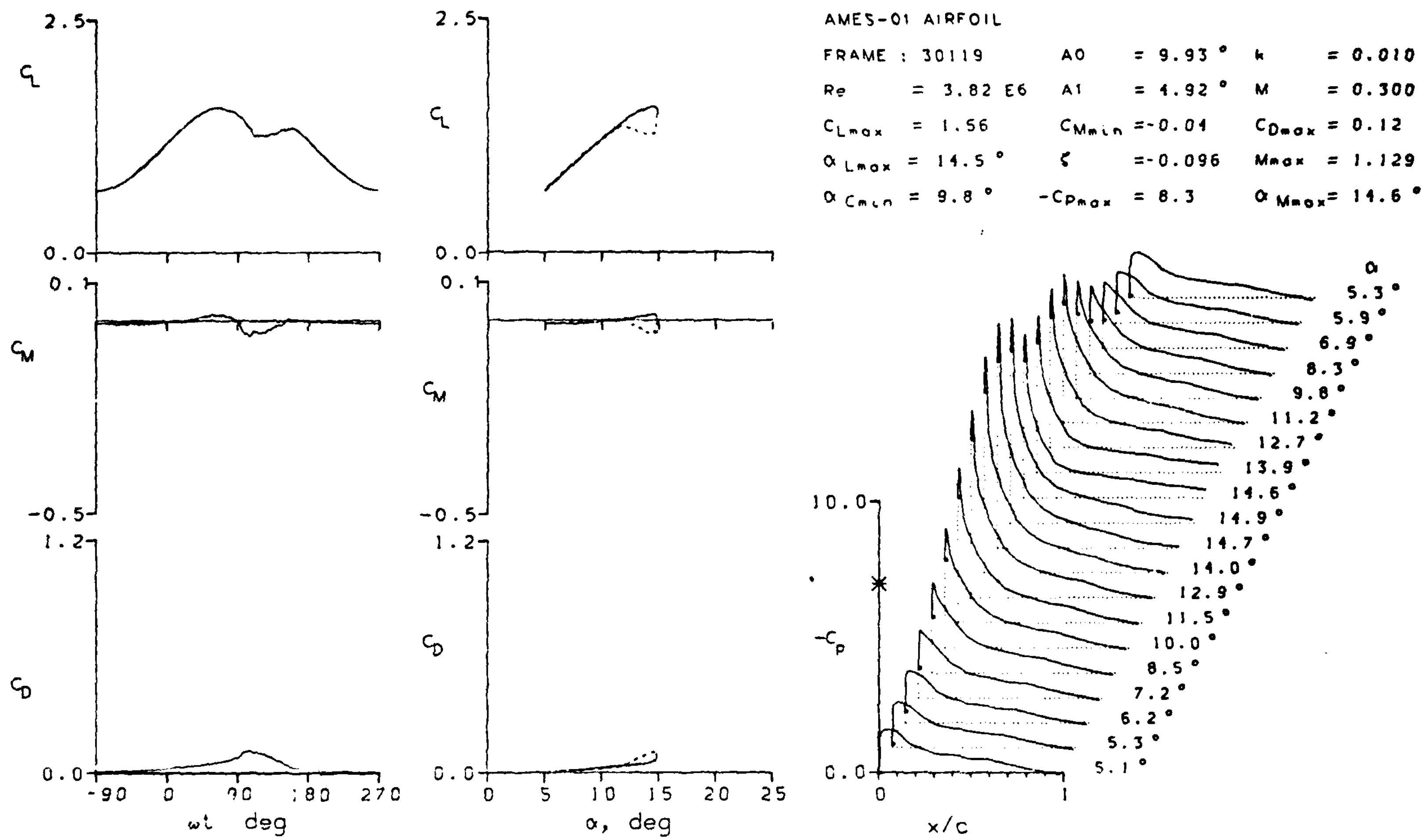

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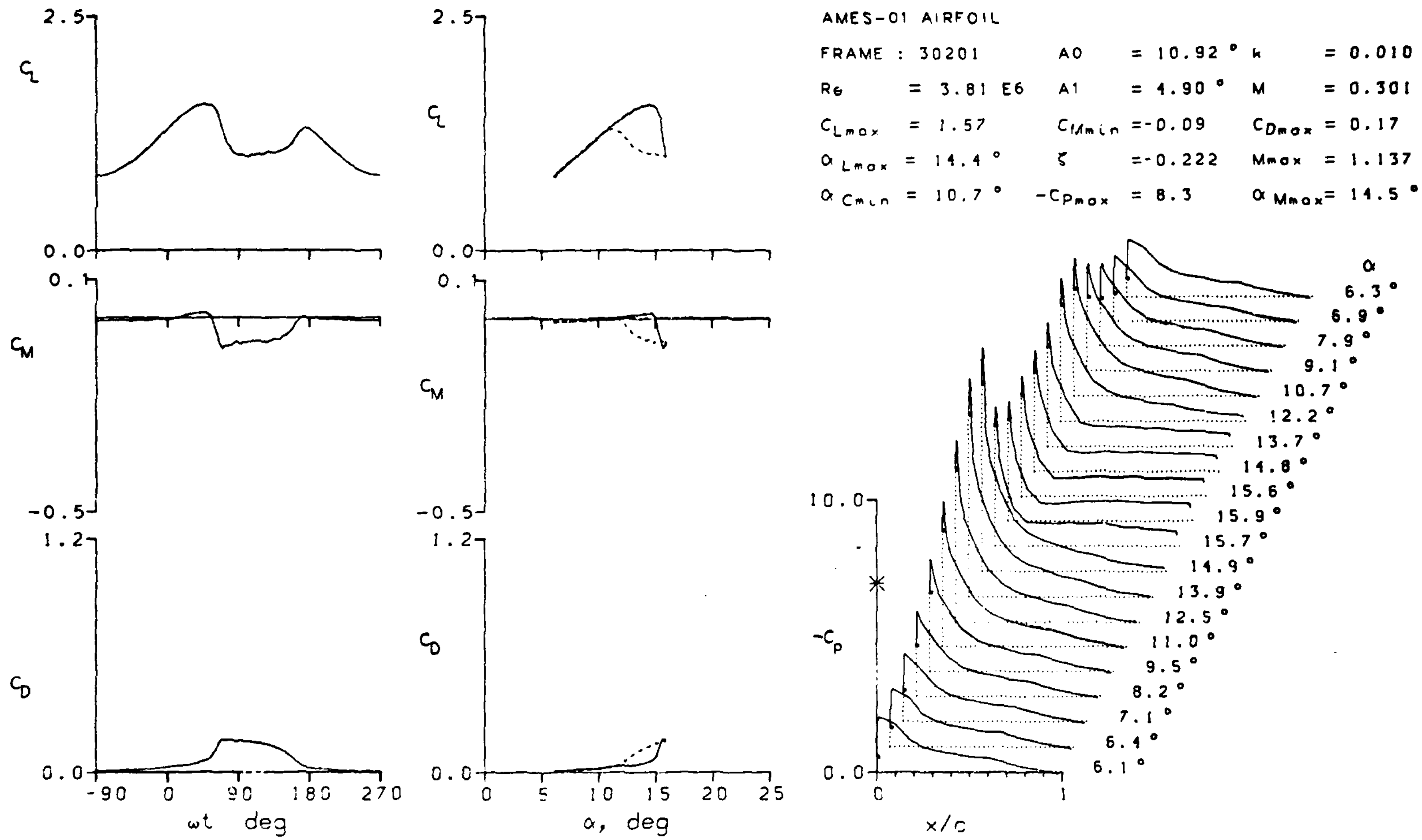

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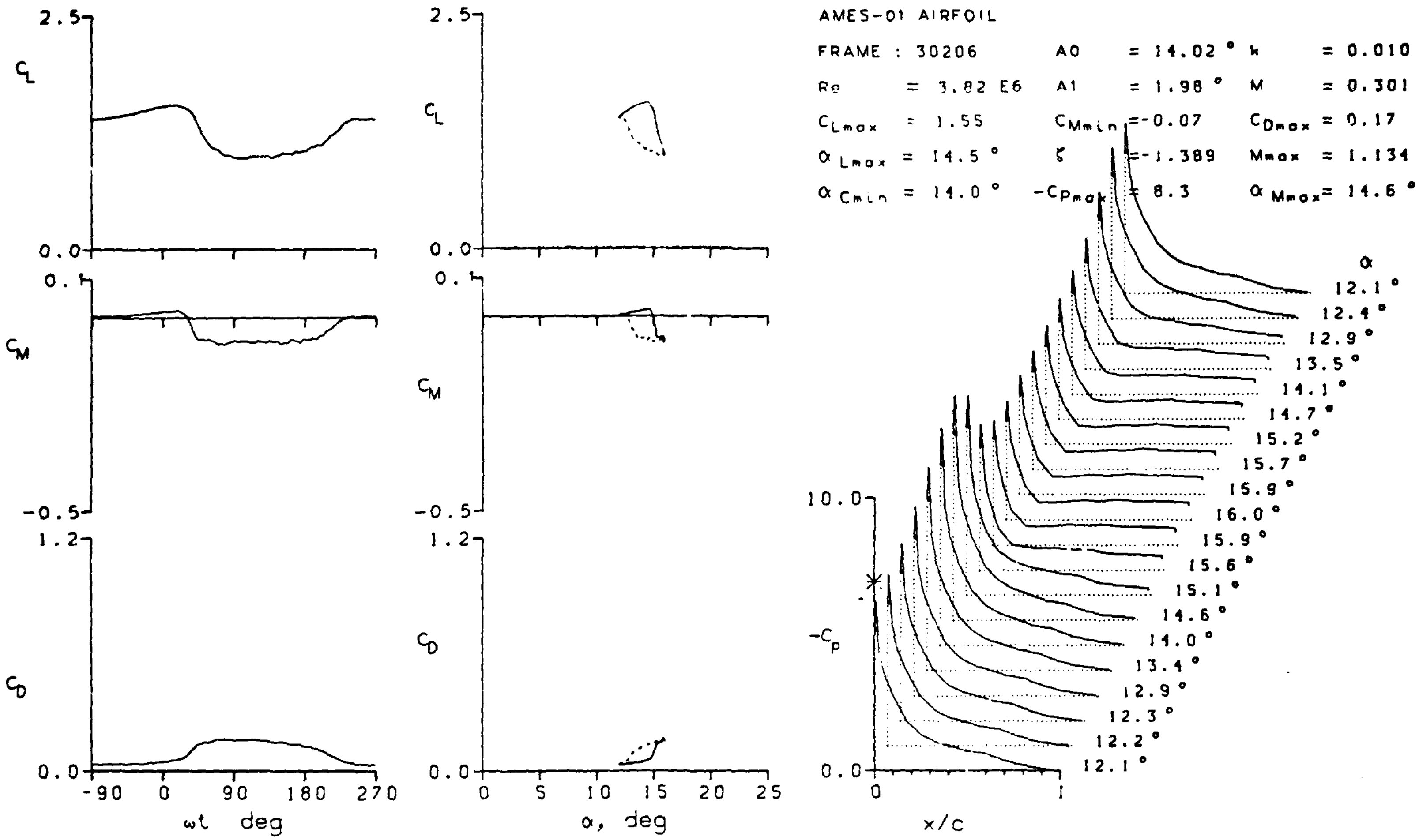

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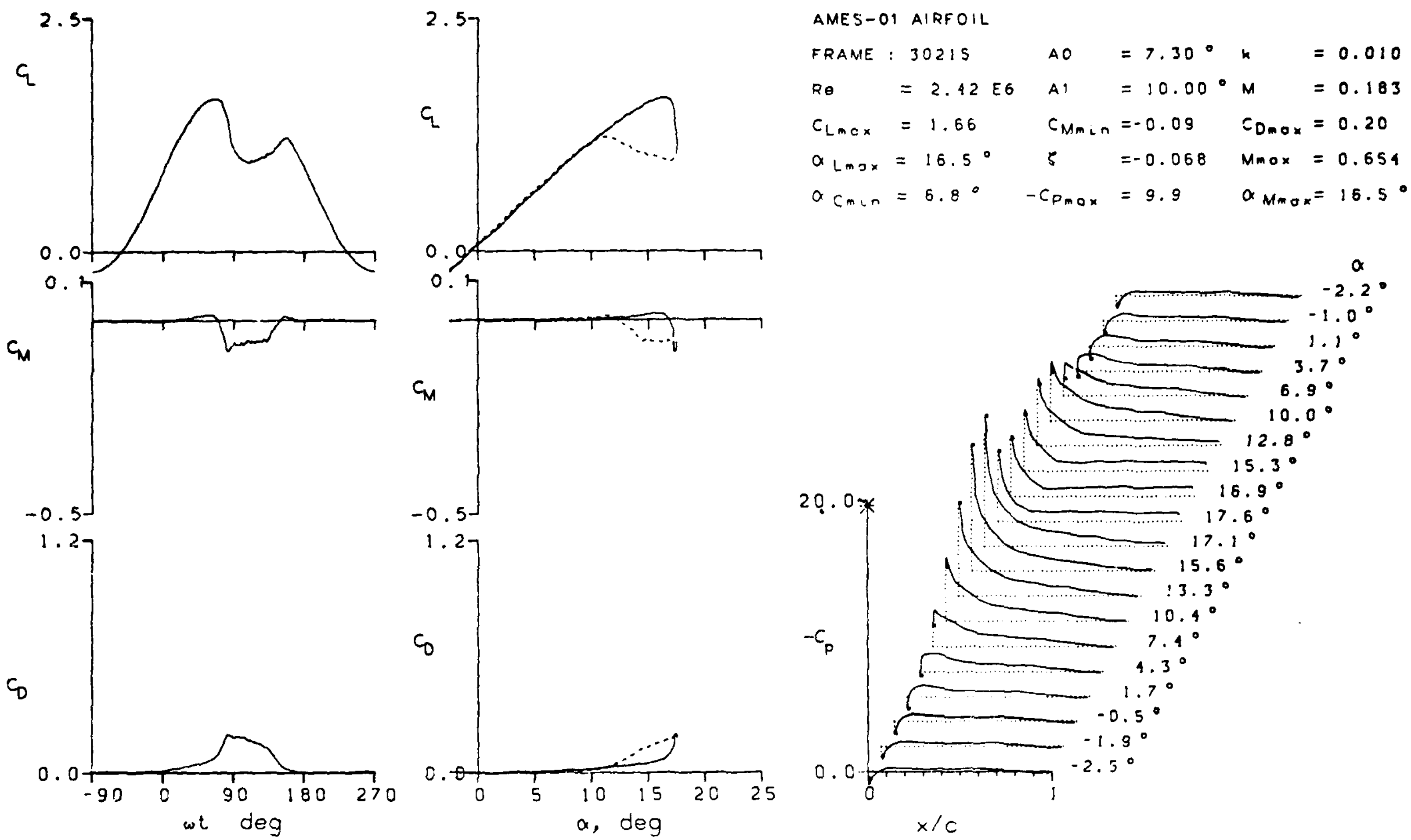

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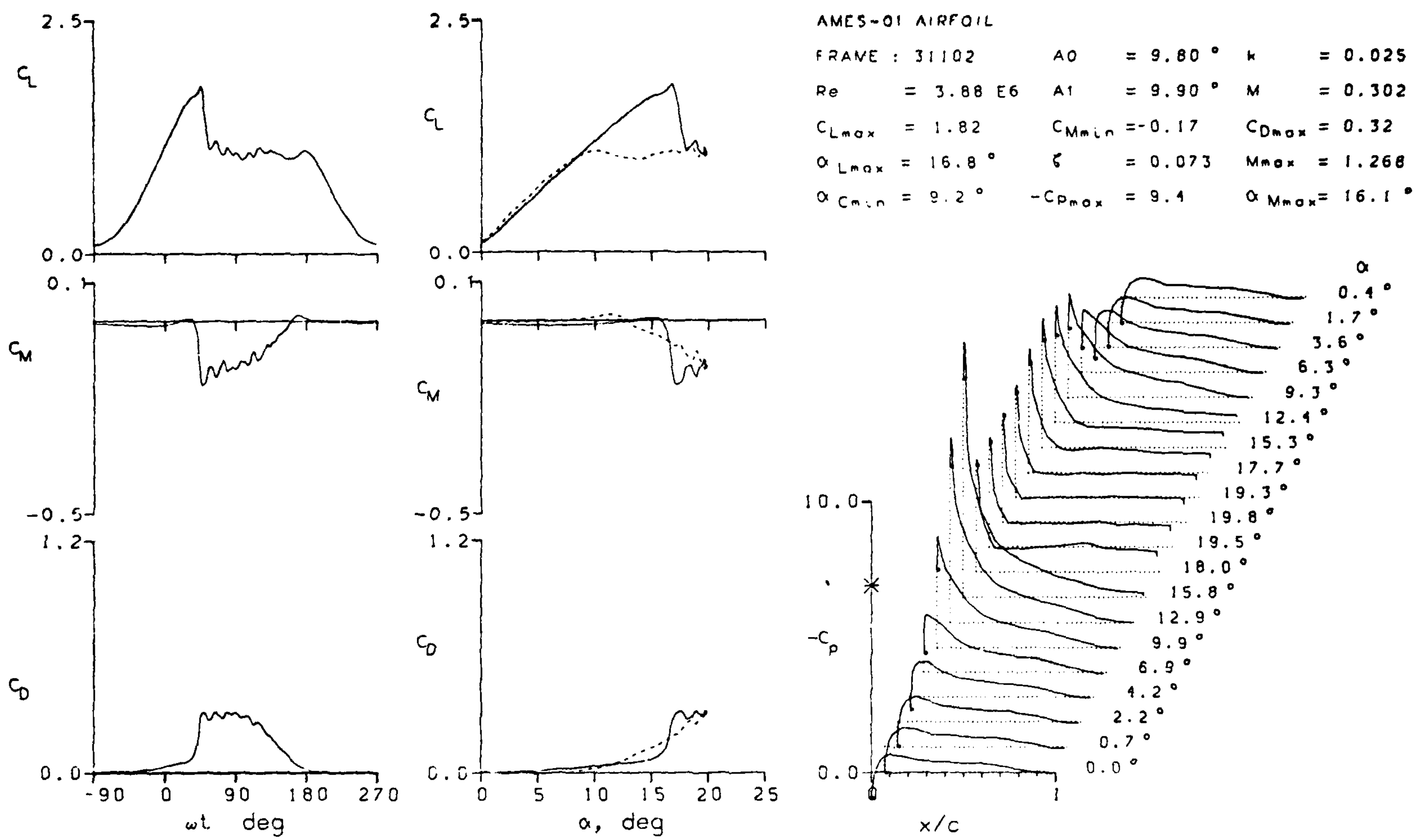

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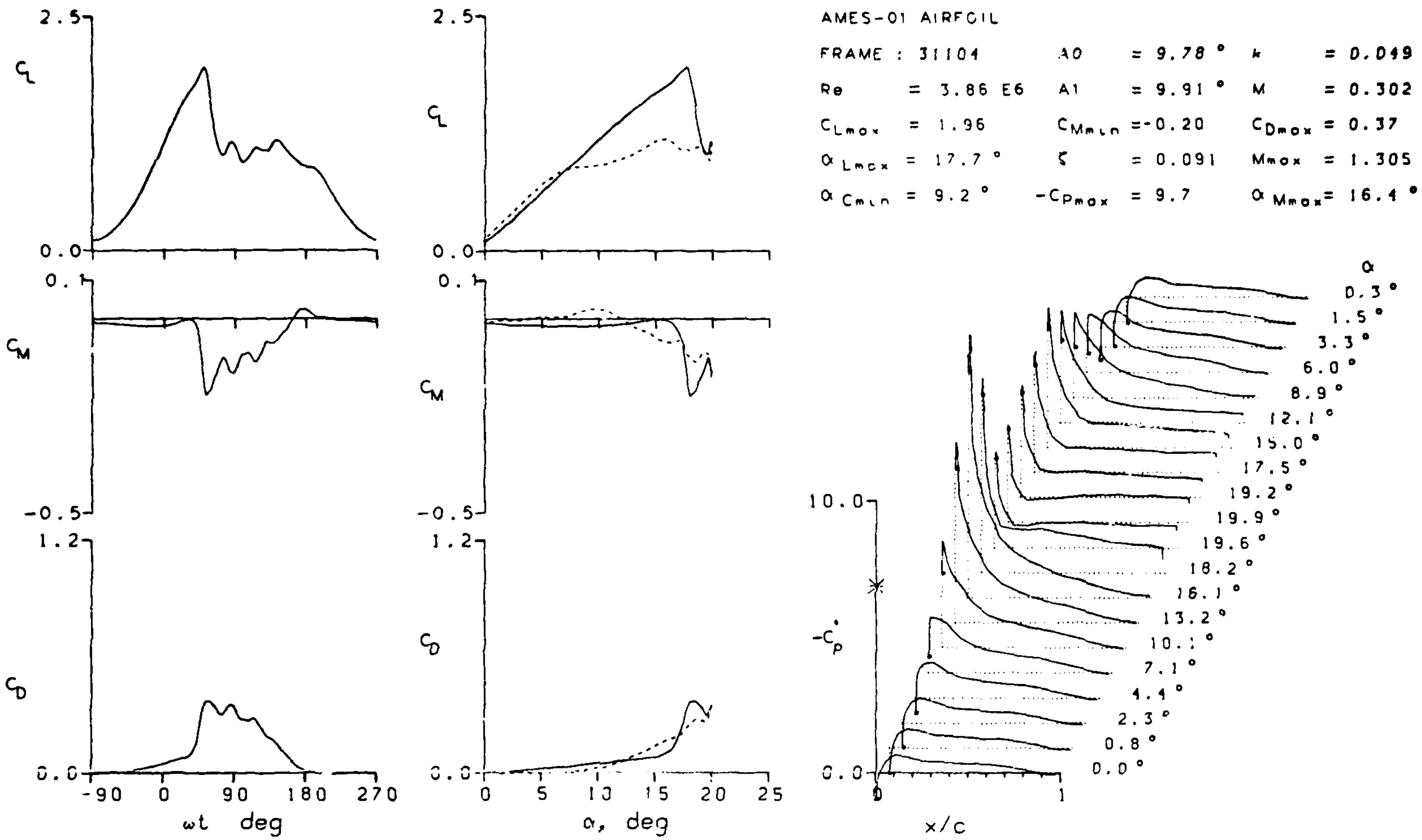

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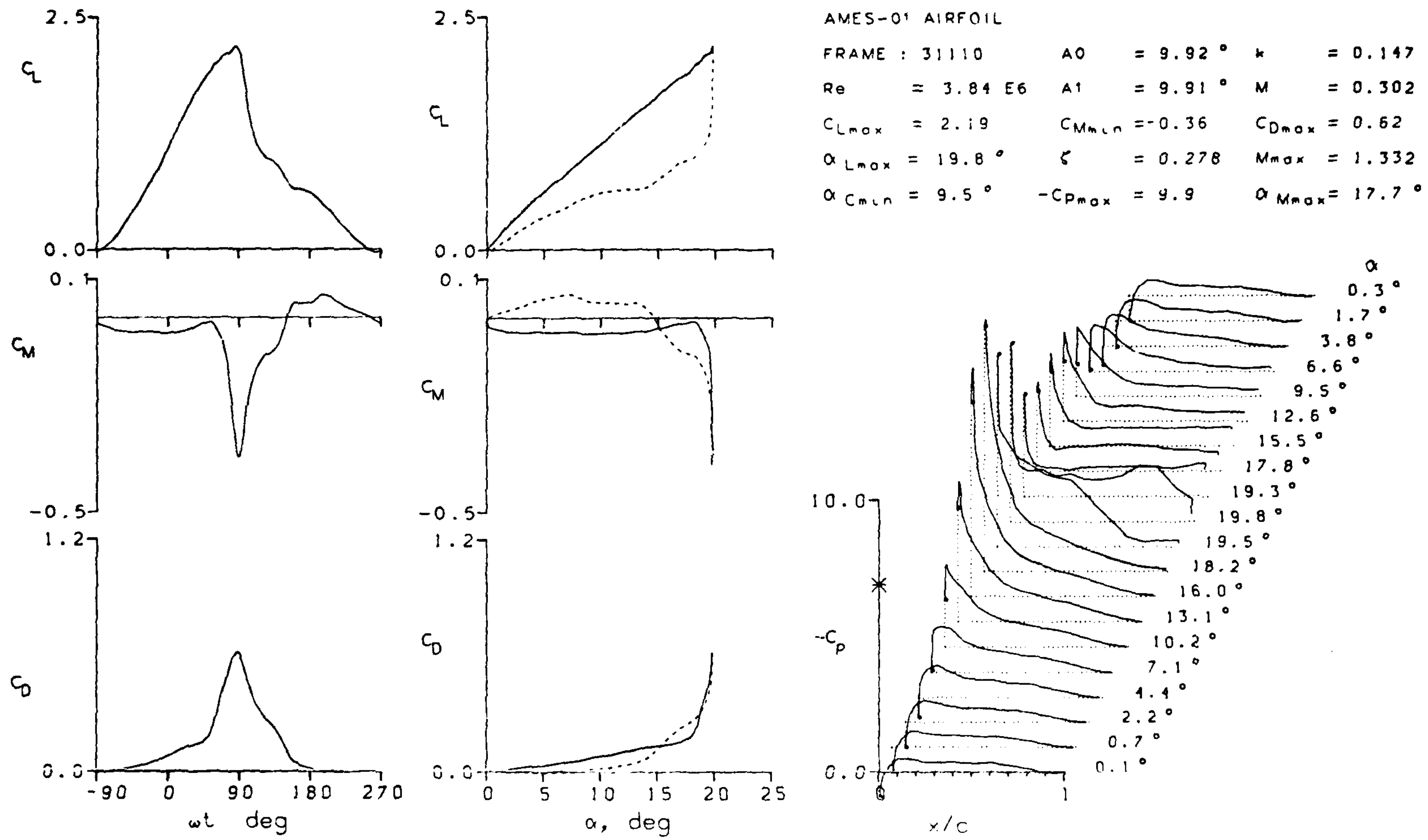

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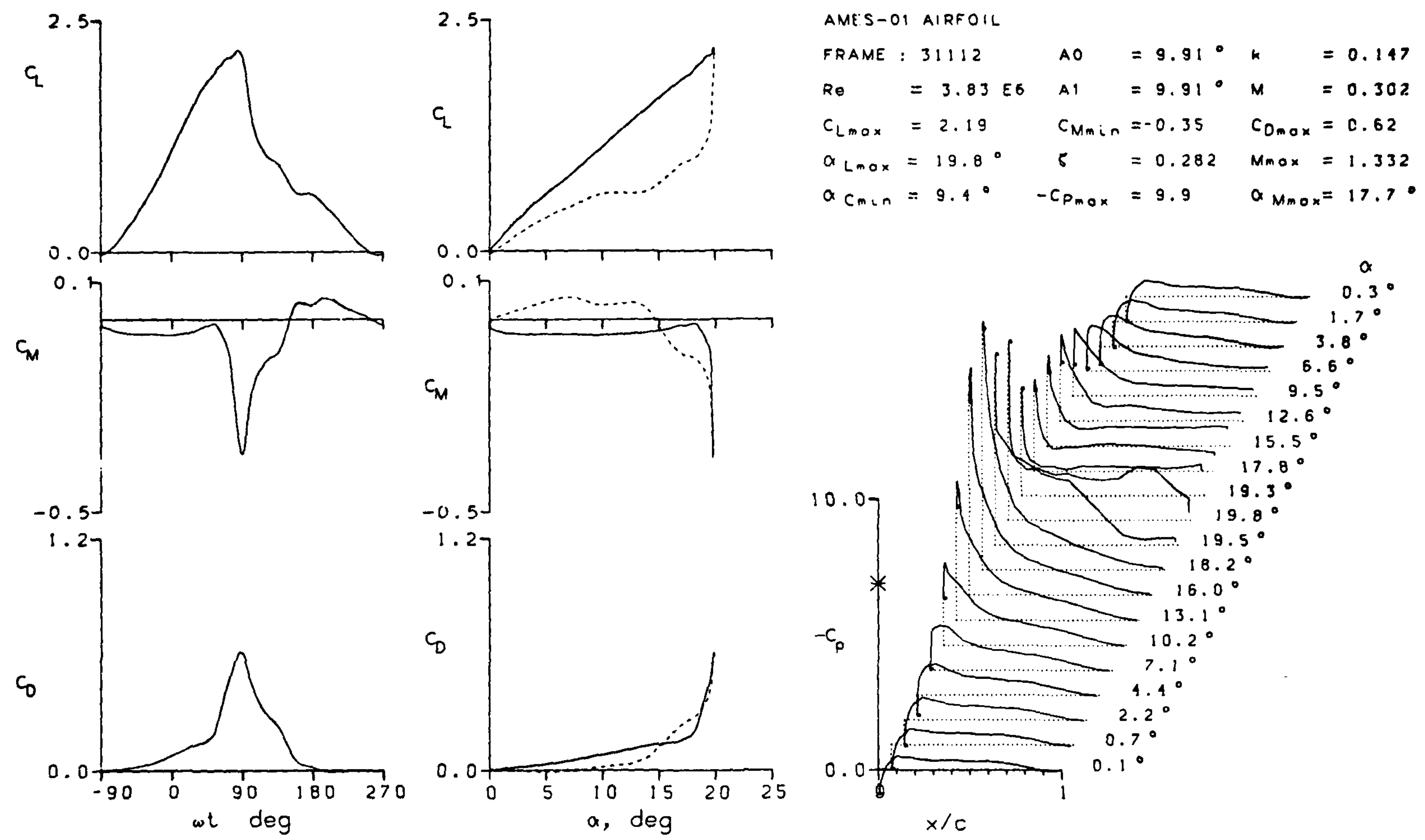

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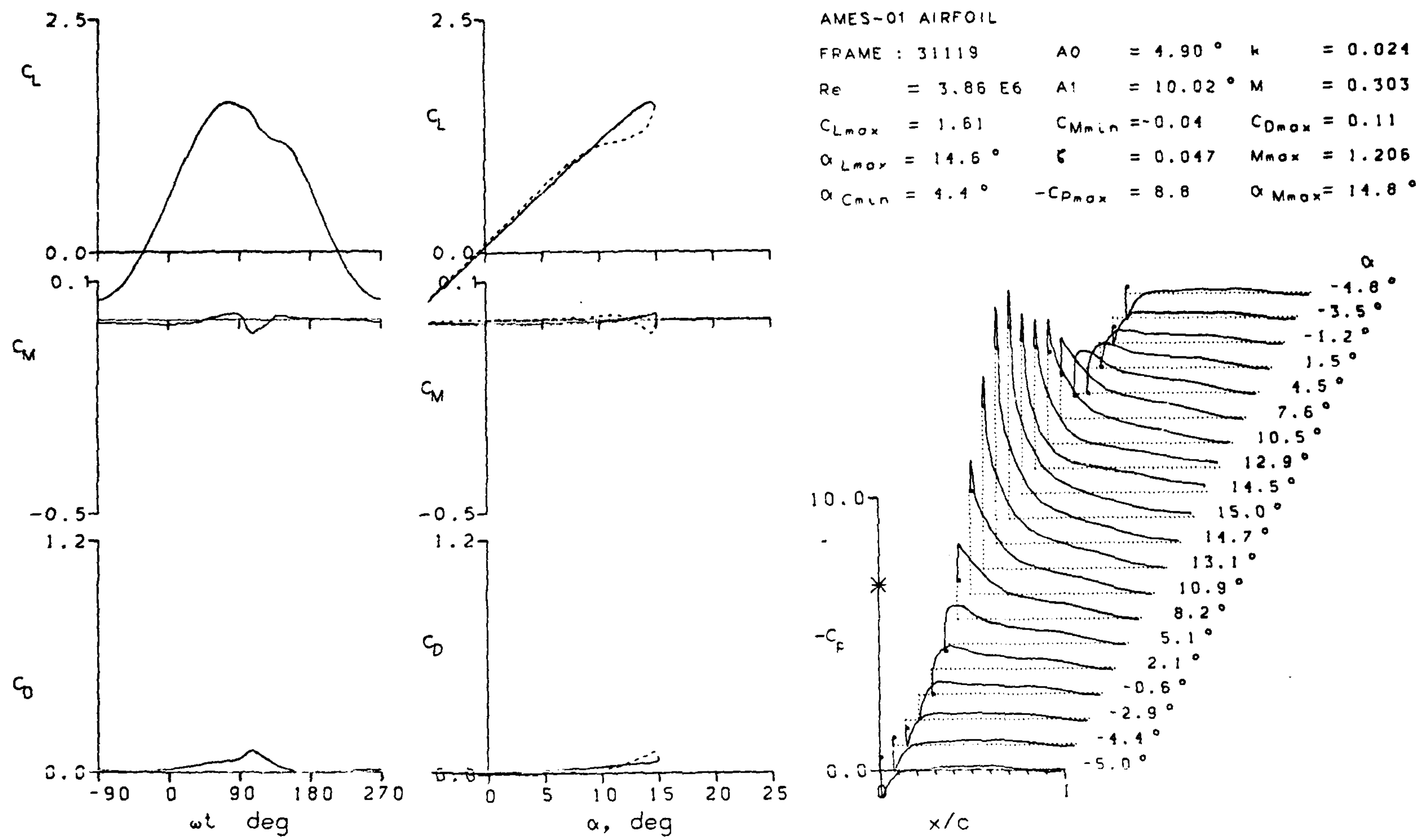

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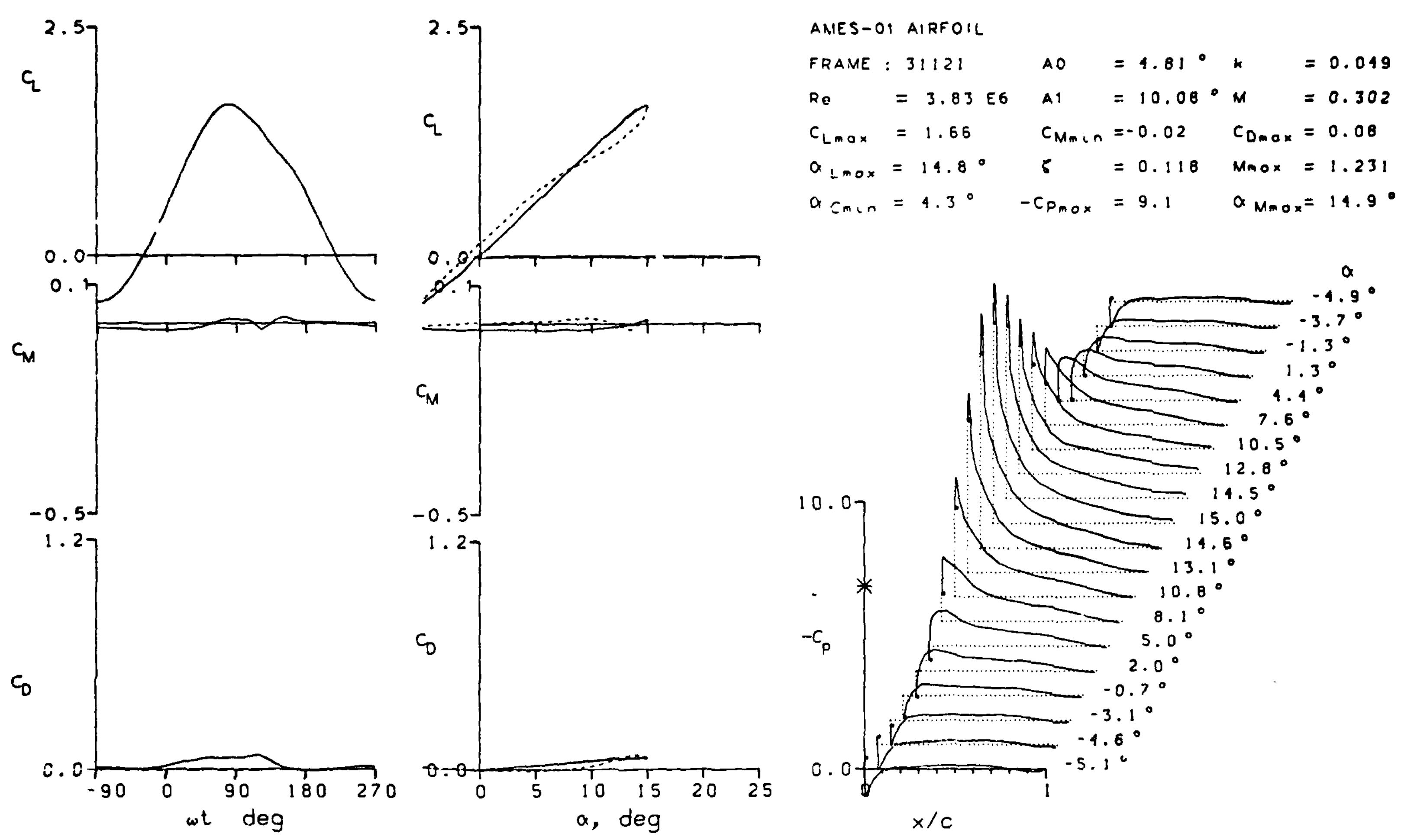

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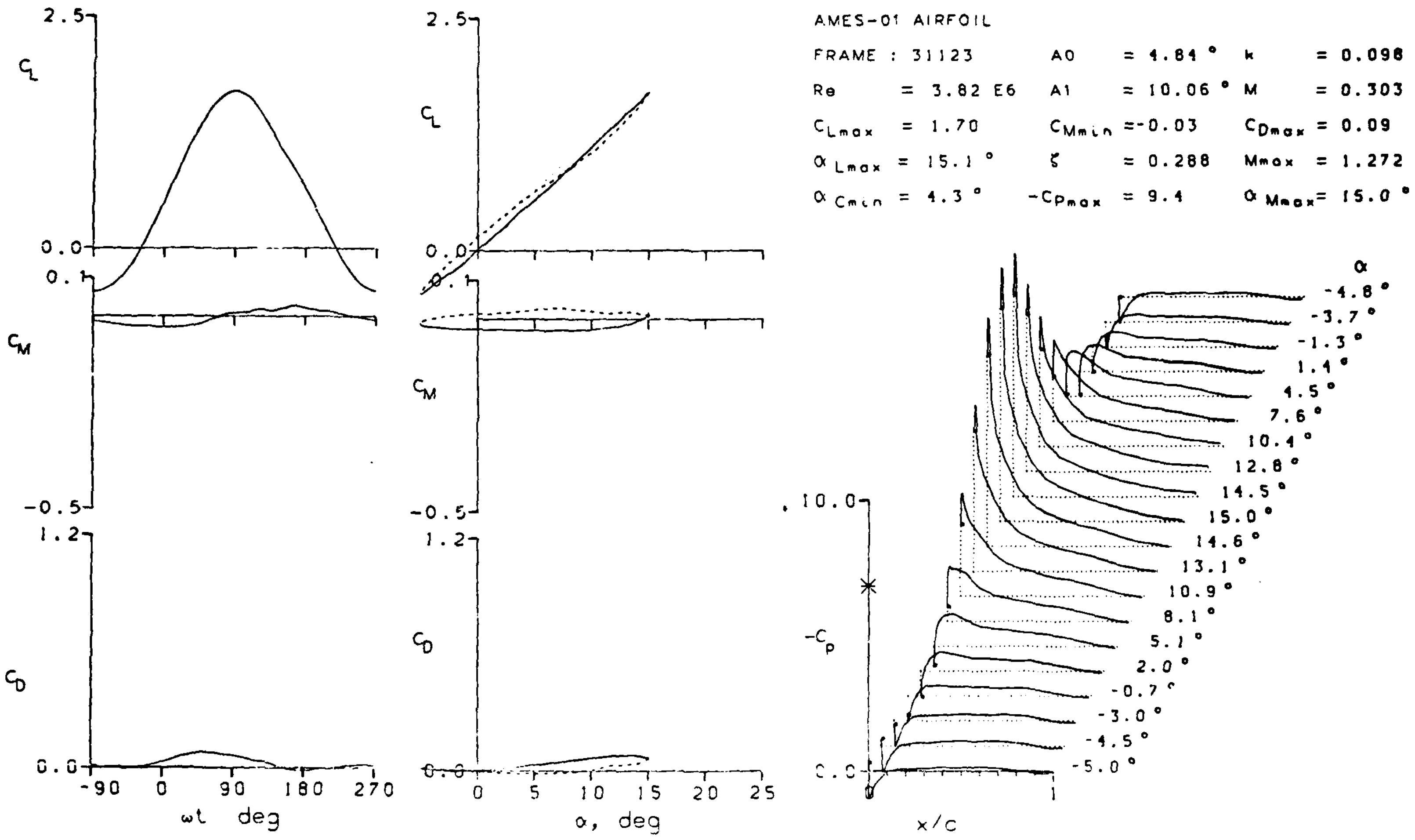

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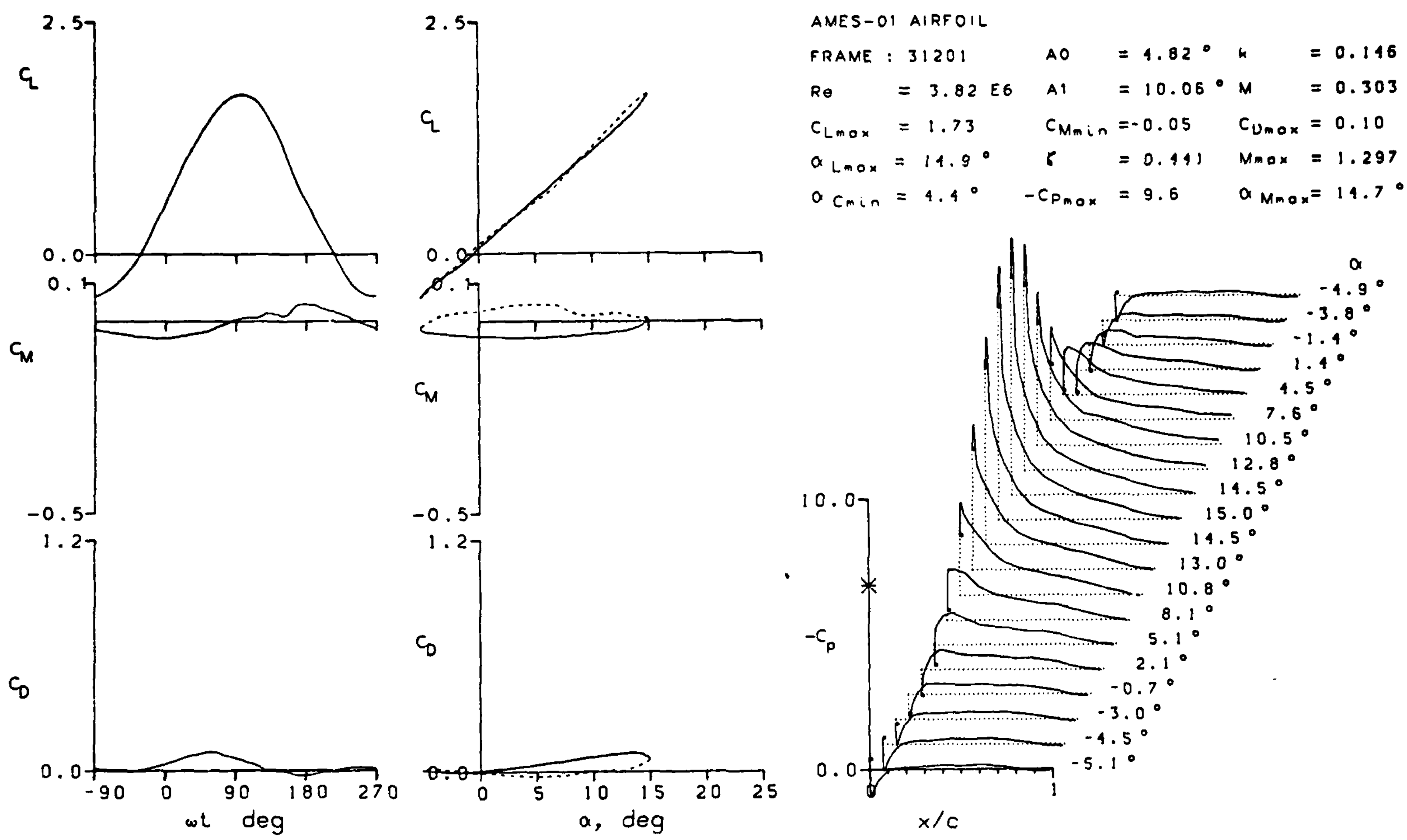

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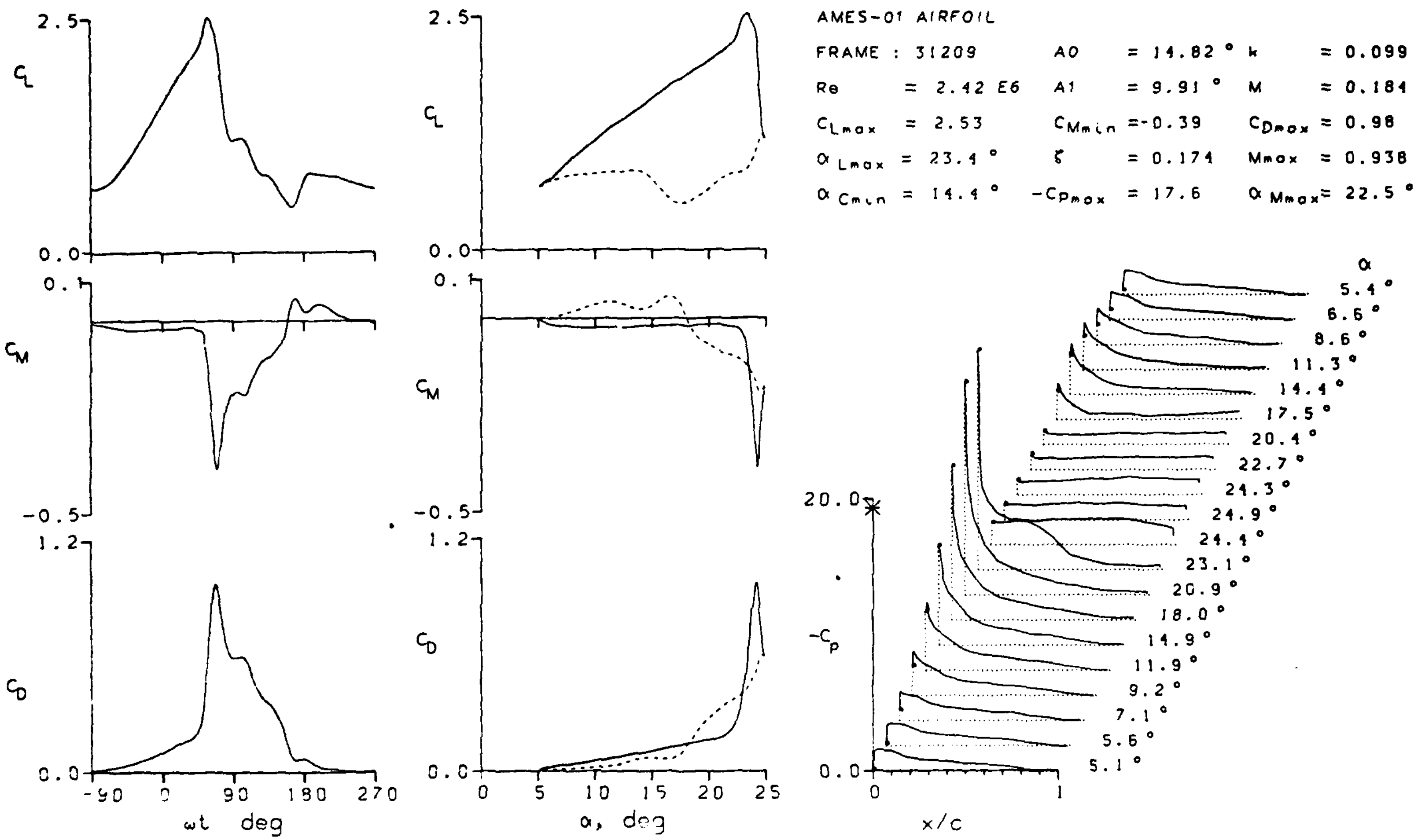

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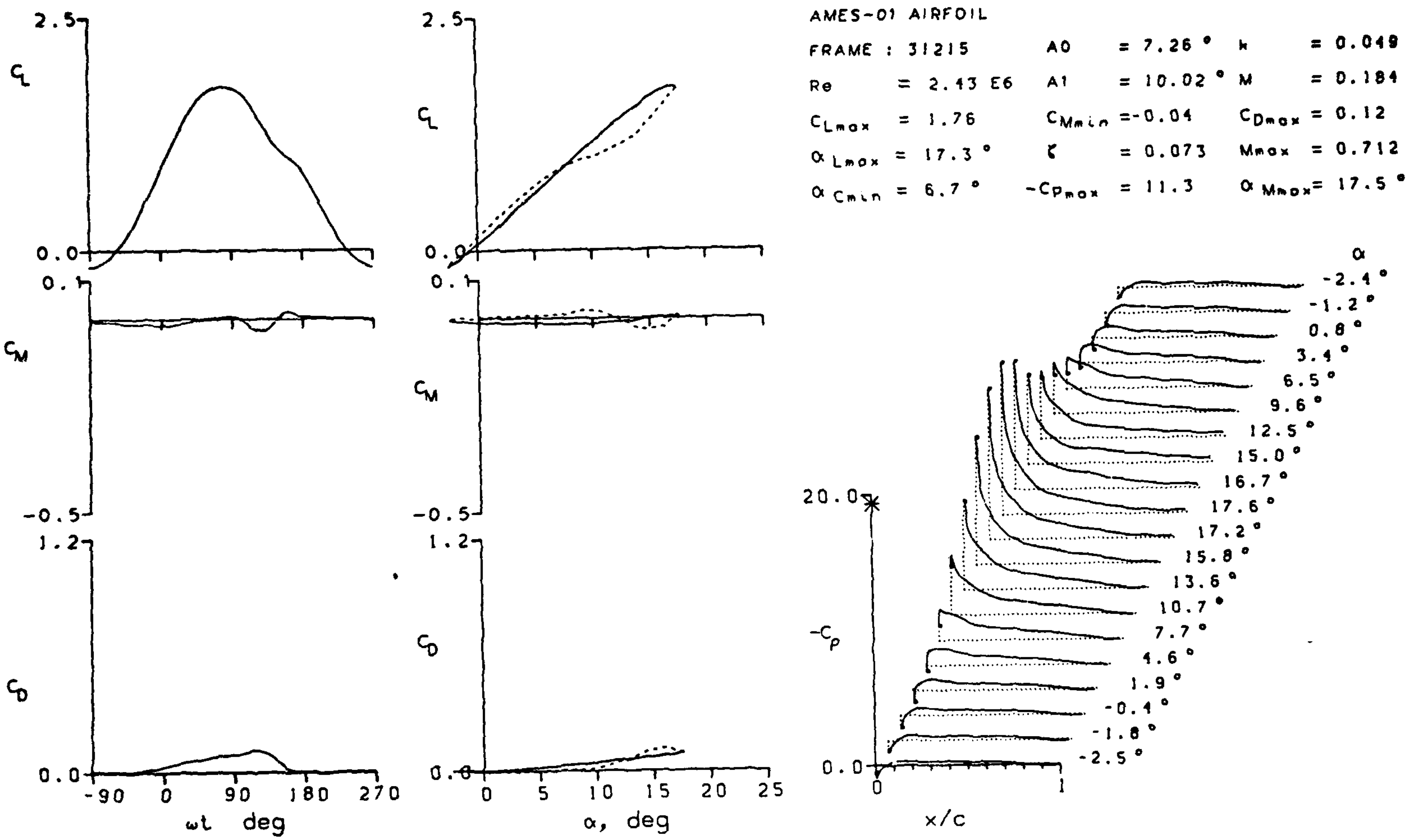

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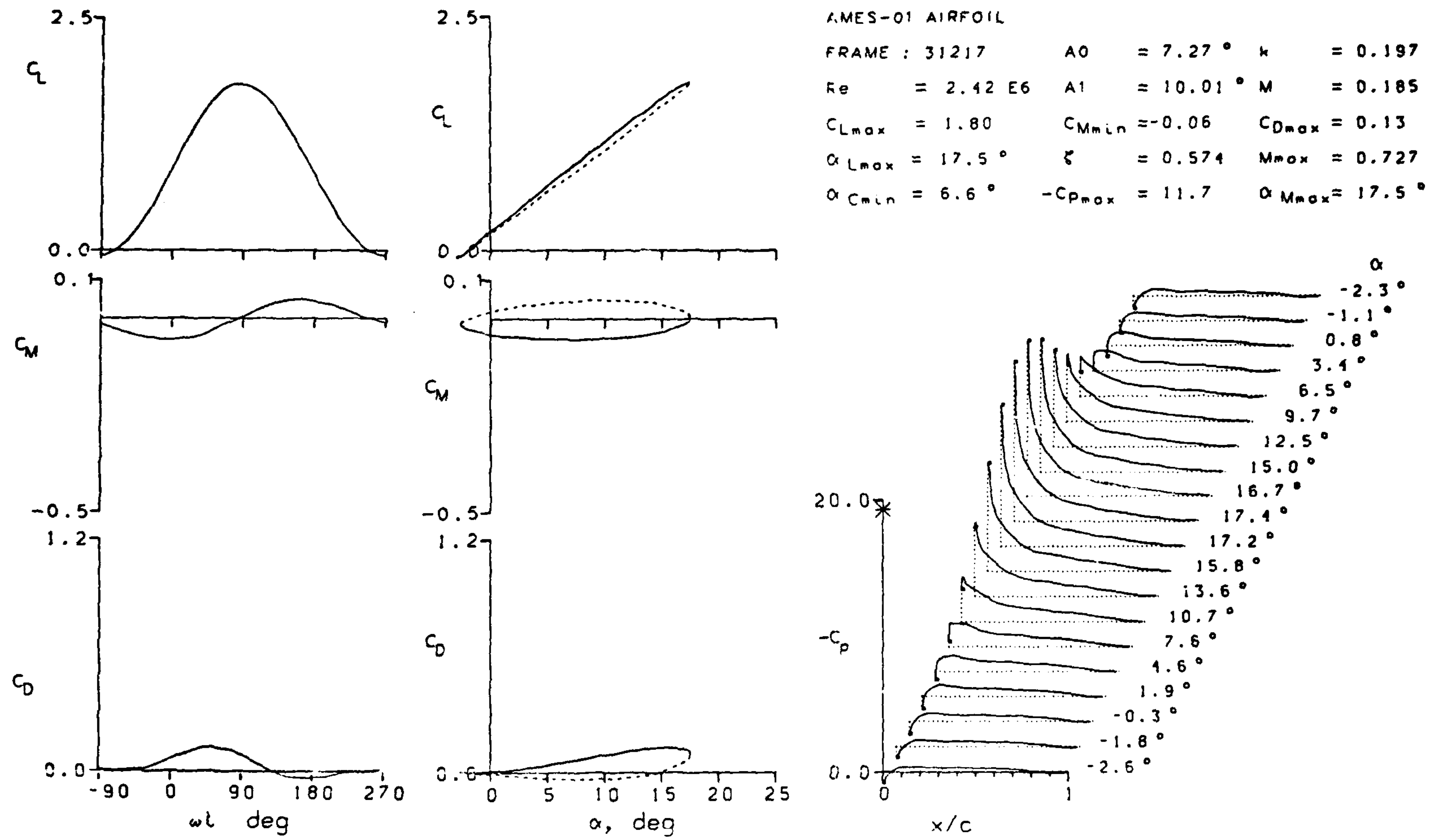

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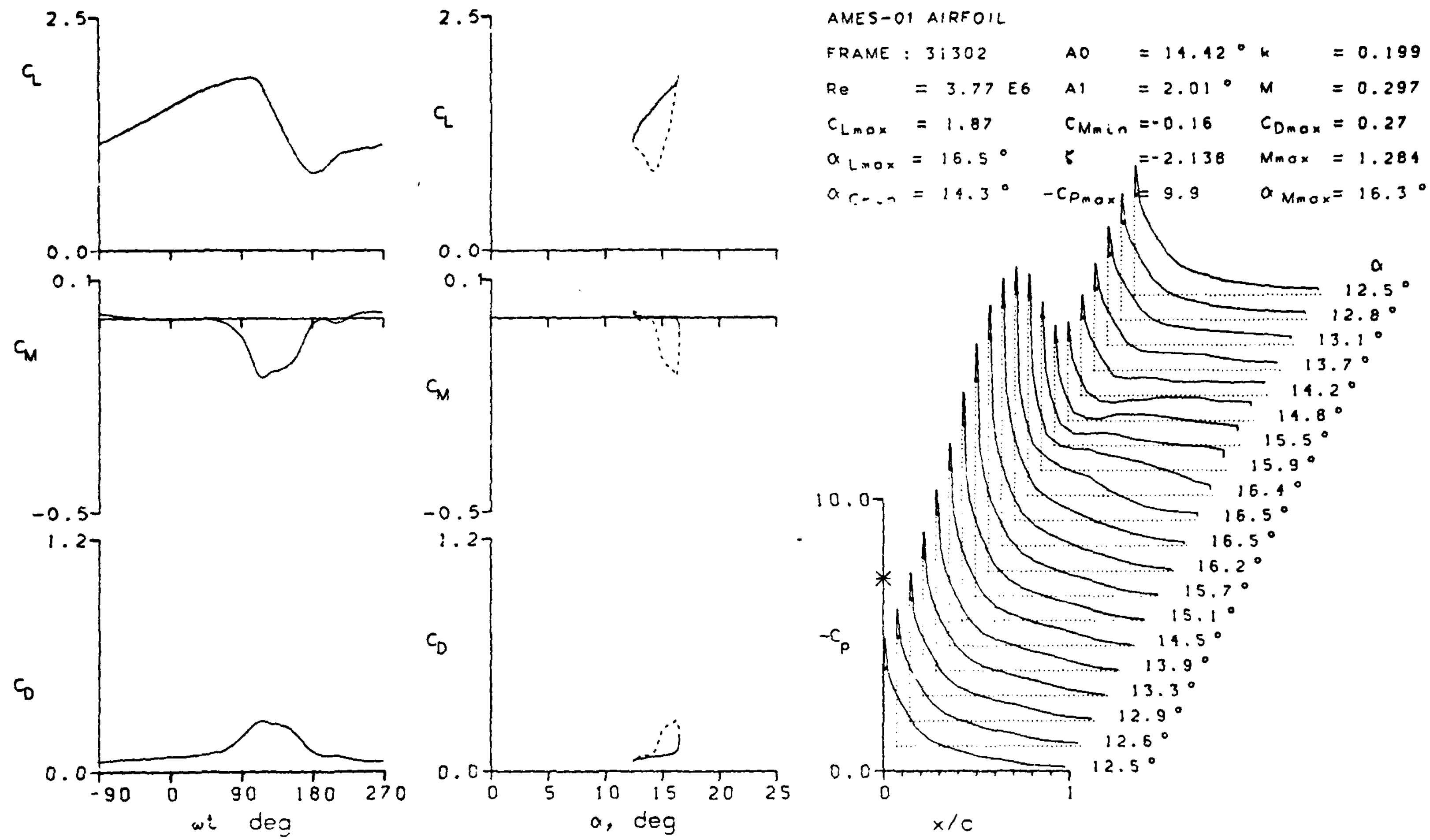

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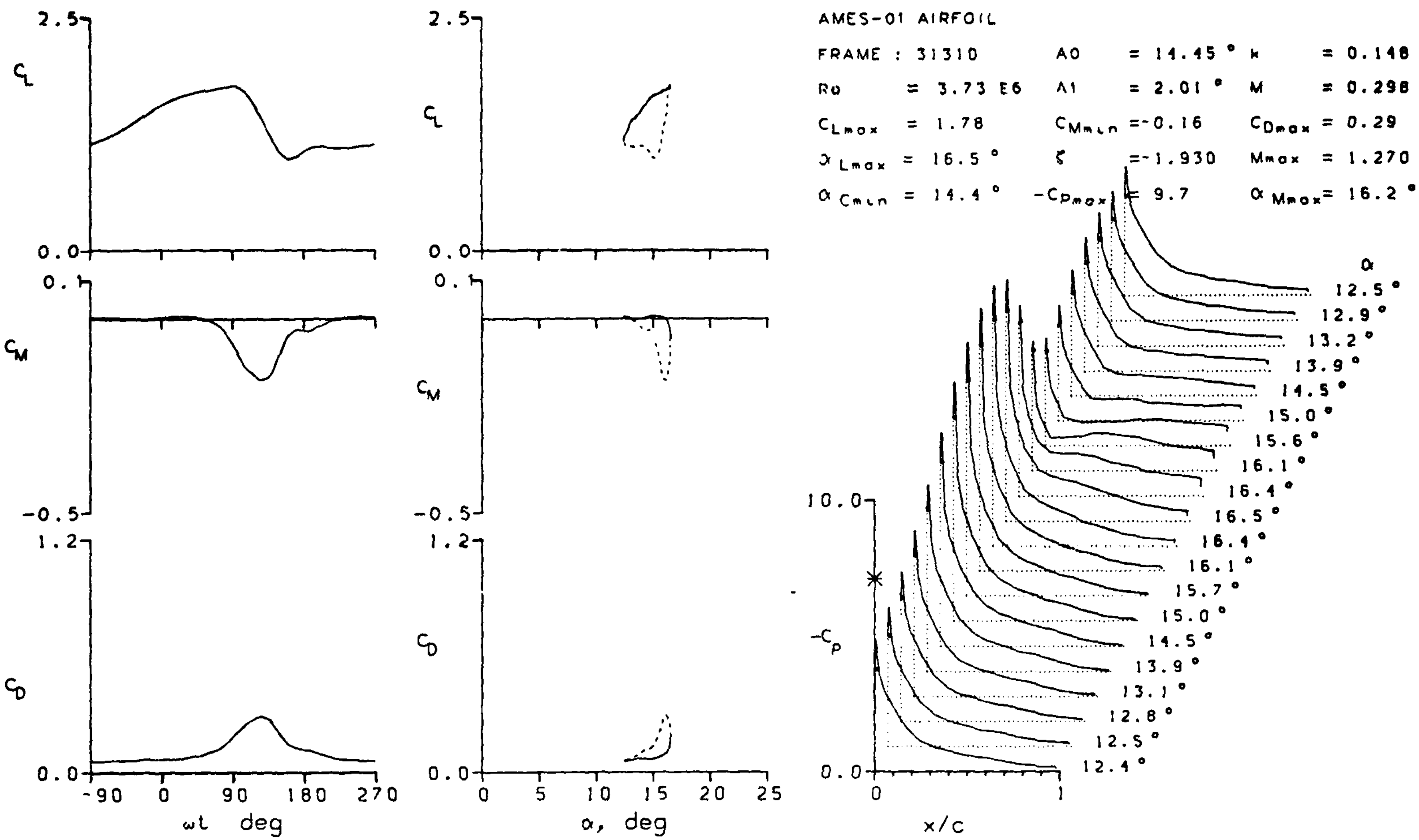

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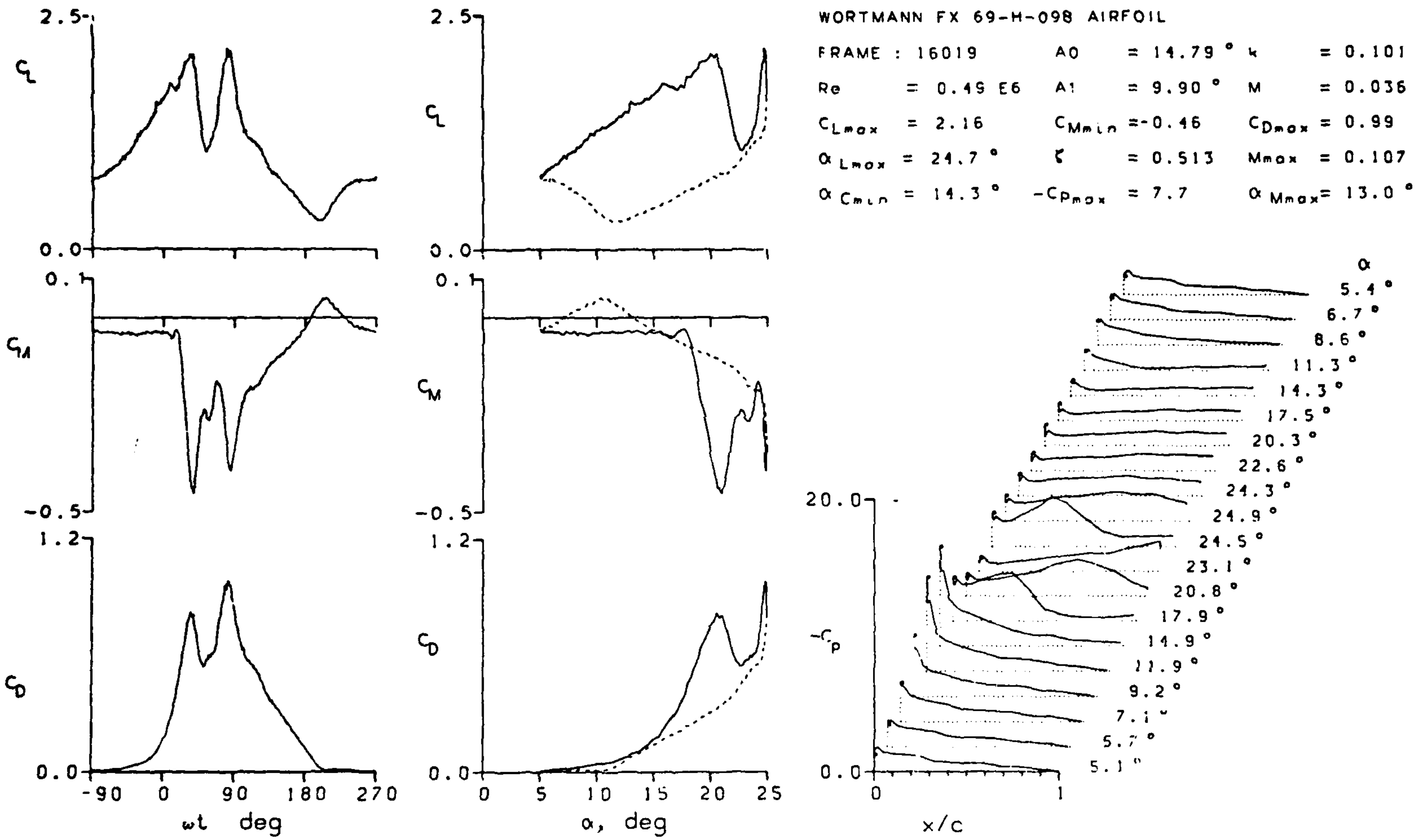

Figure 14.- Dynamic data for Wortmann FX-098 airfoil.

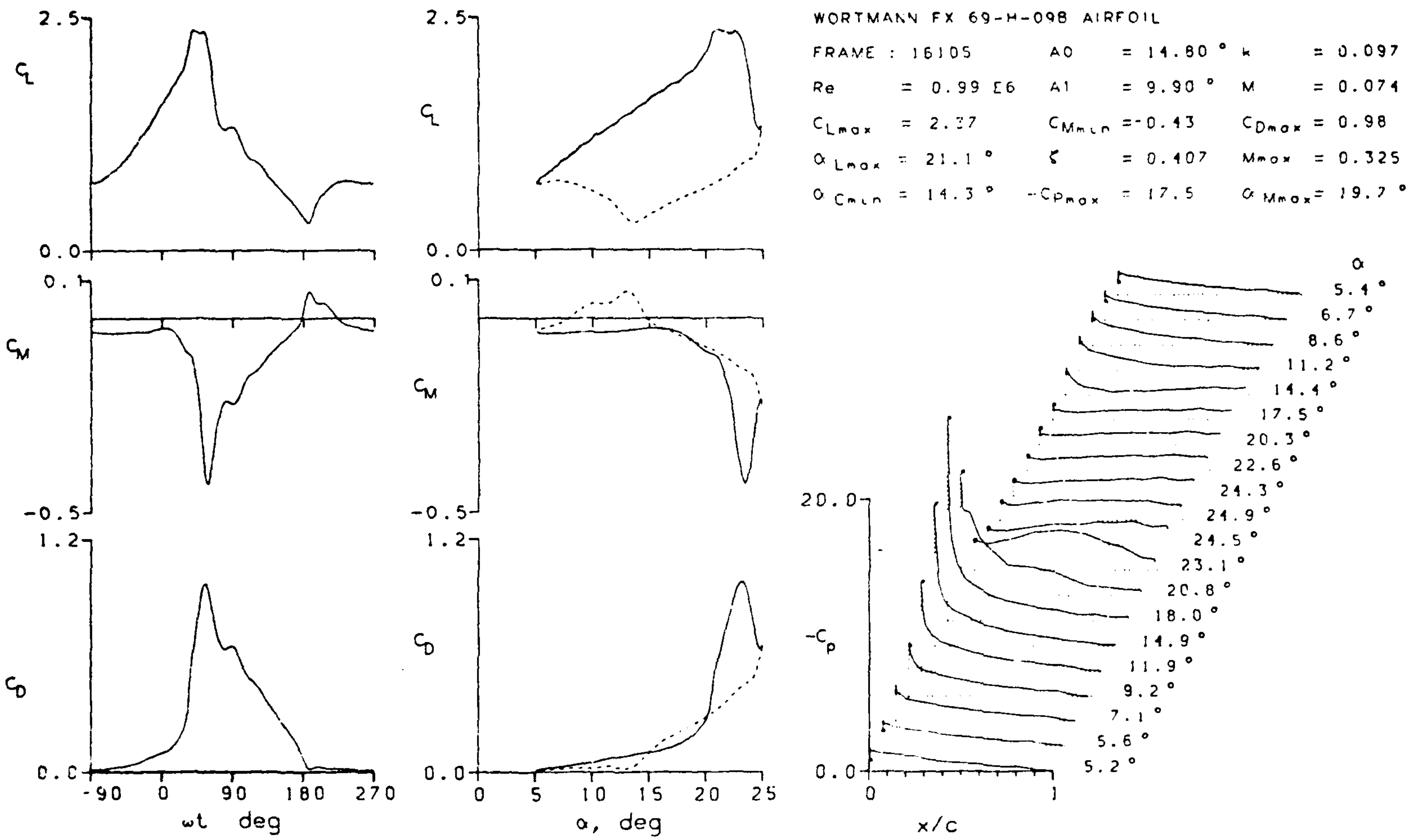

Figure 14.- Continued.

AD-A121 598 AN EXPERIMENTAL STUDY OF DYNAMIC STALL ON ADVANCED AIRFOIL SECTIONS VOLUM..(U) NATIONAL AERONUATICS AND SPACE ADMINISTRATION MOFFETT FIELD C..

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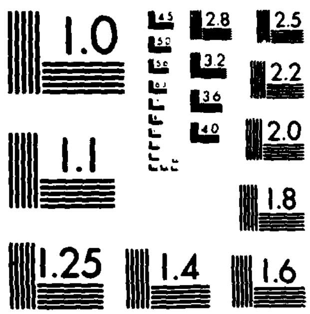
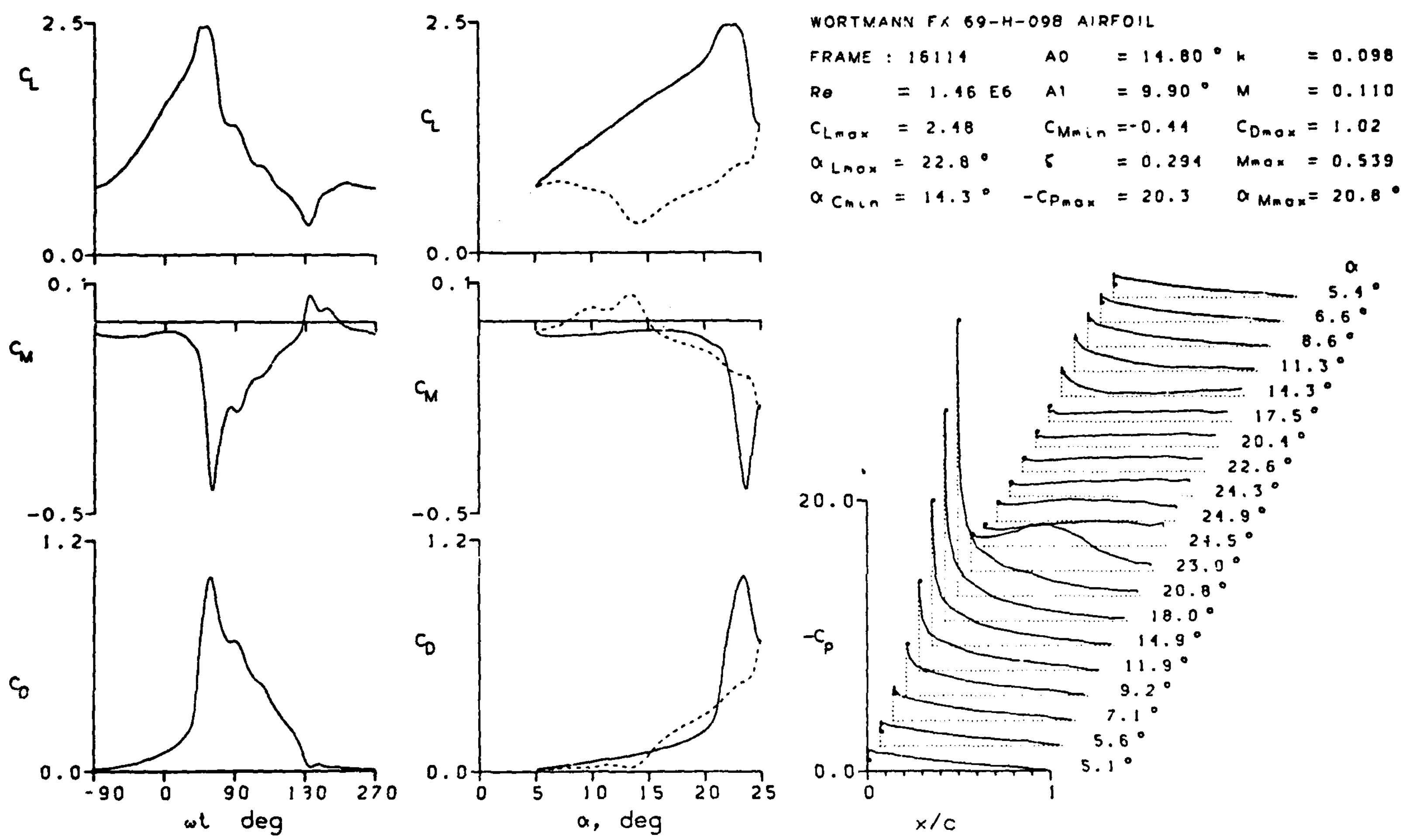


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



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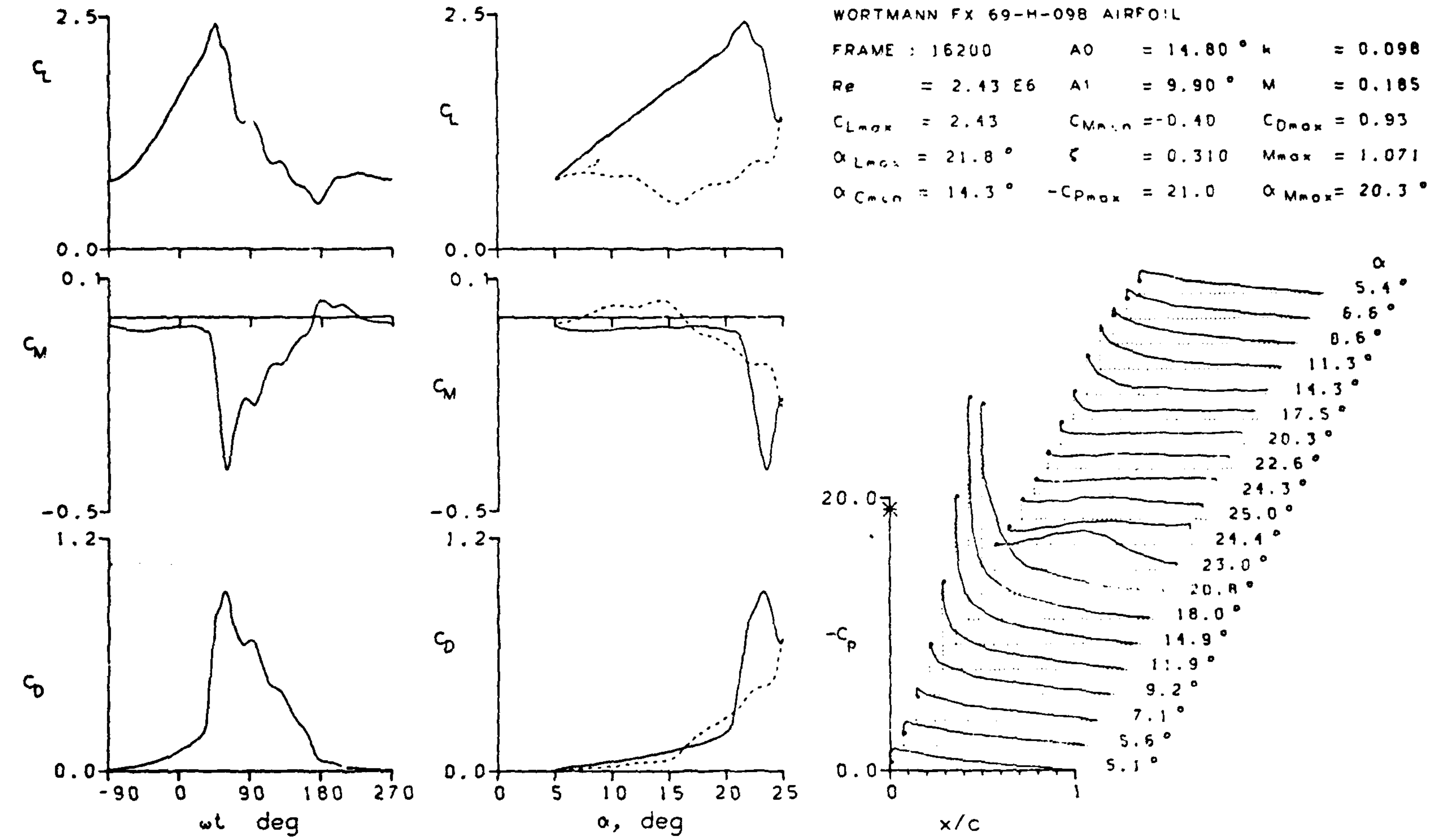

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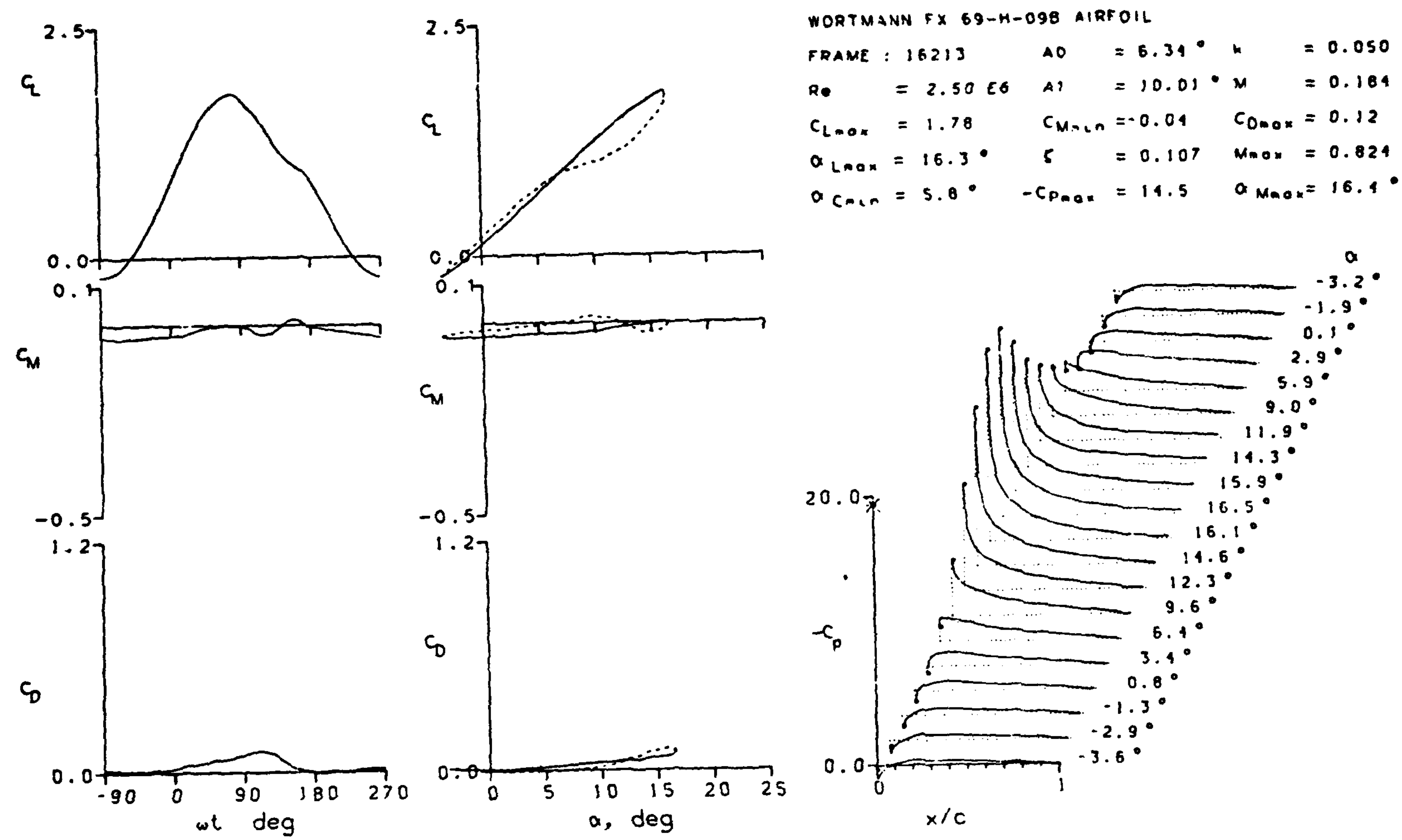

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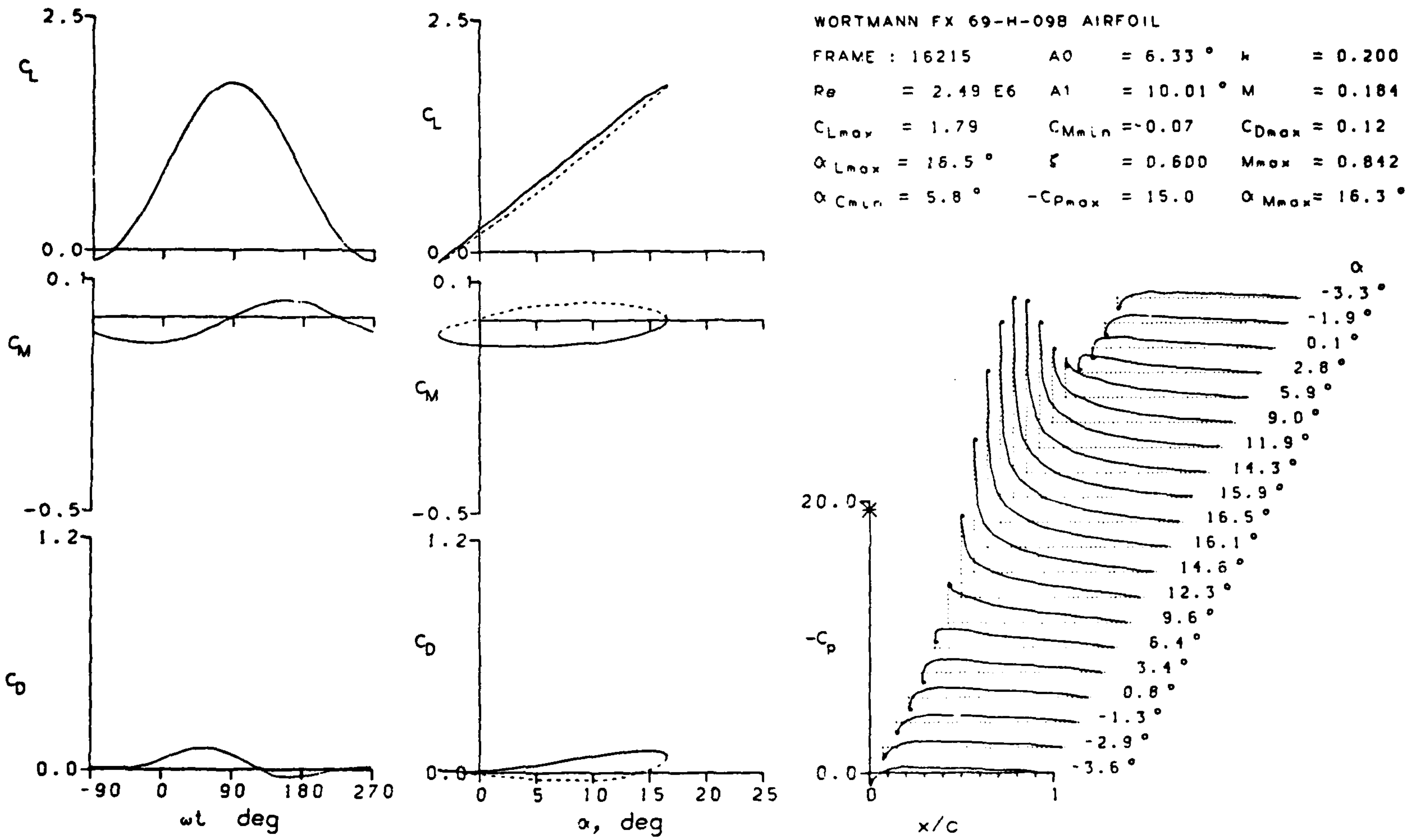

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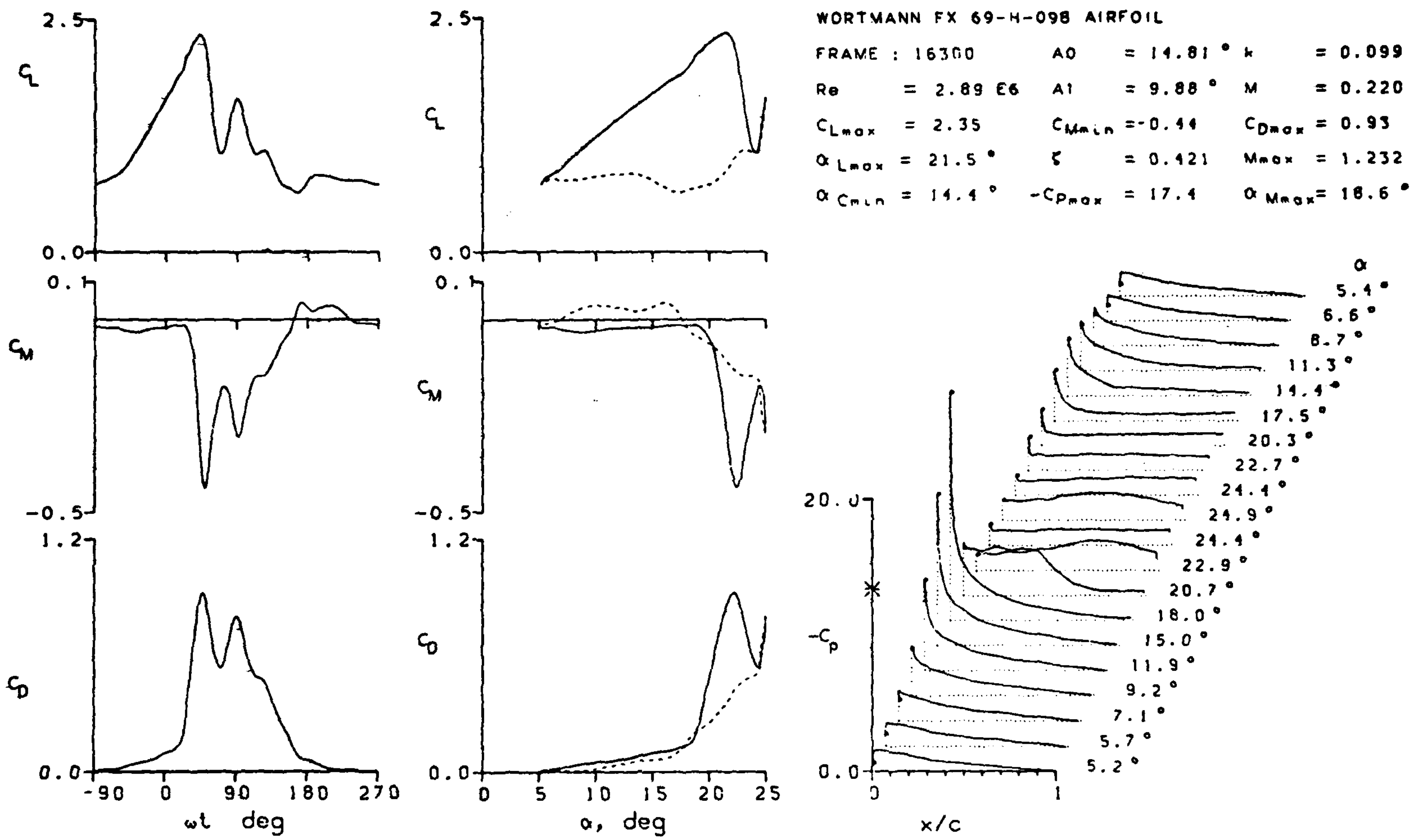

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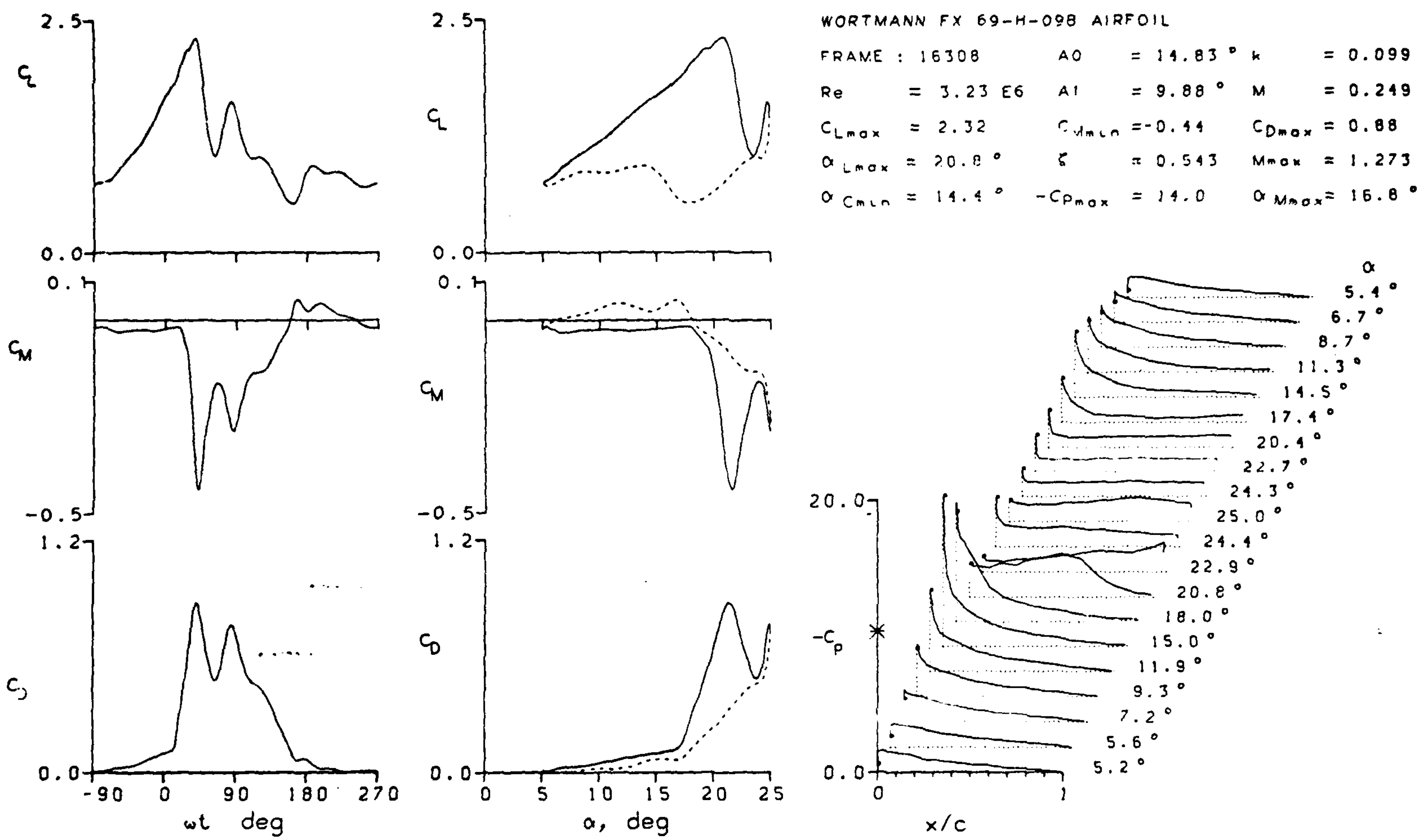

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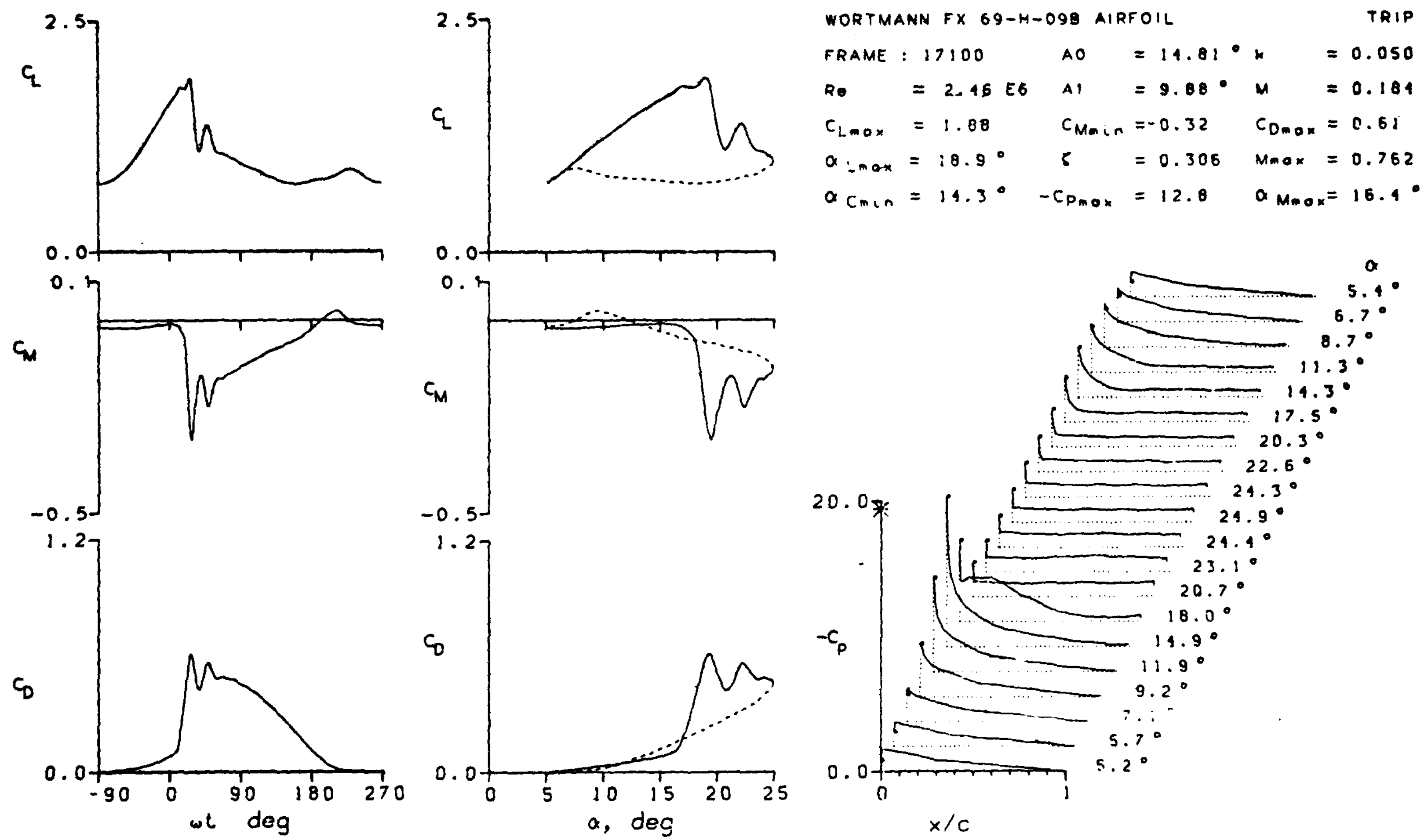

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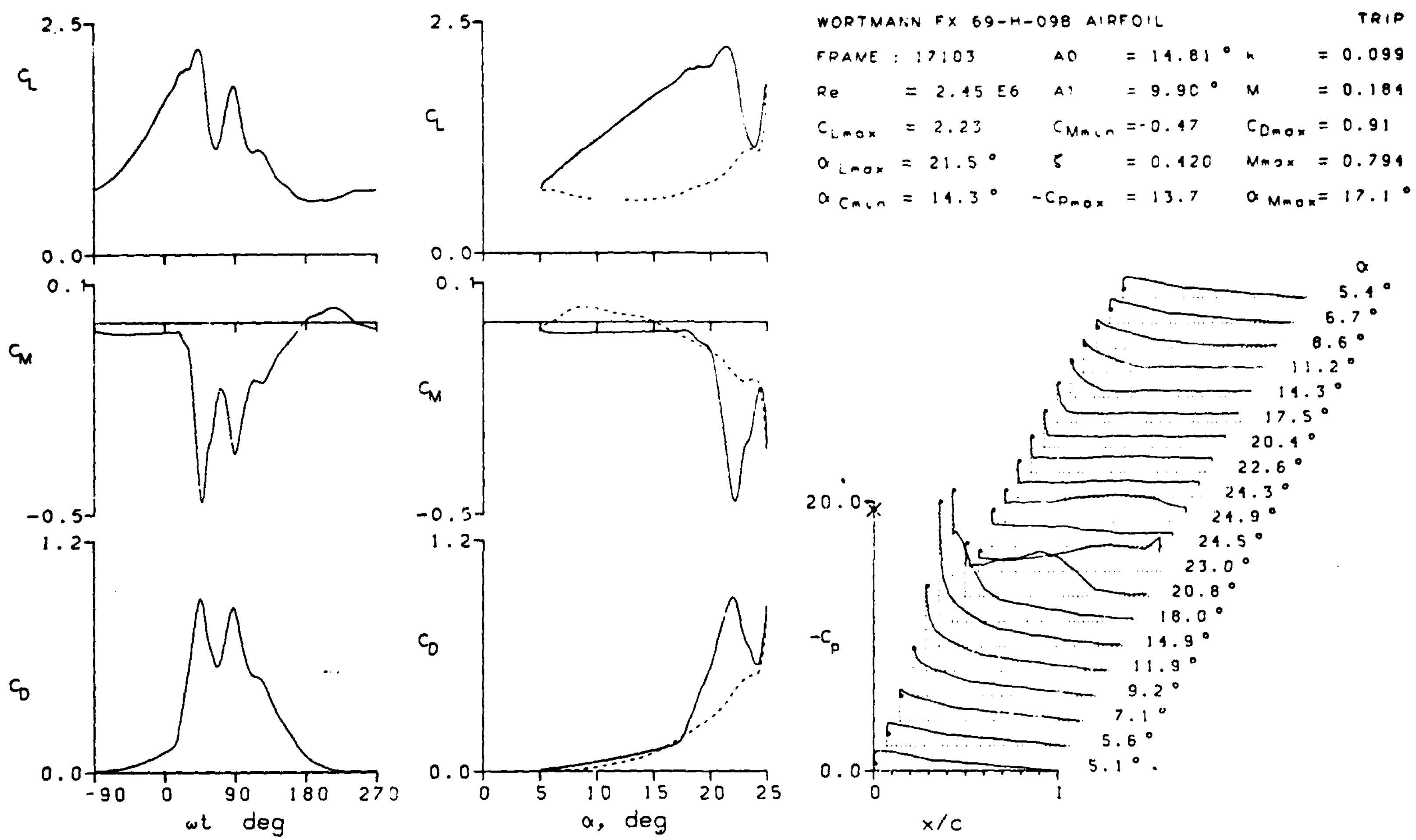

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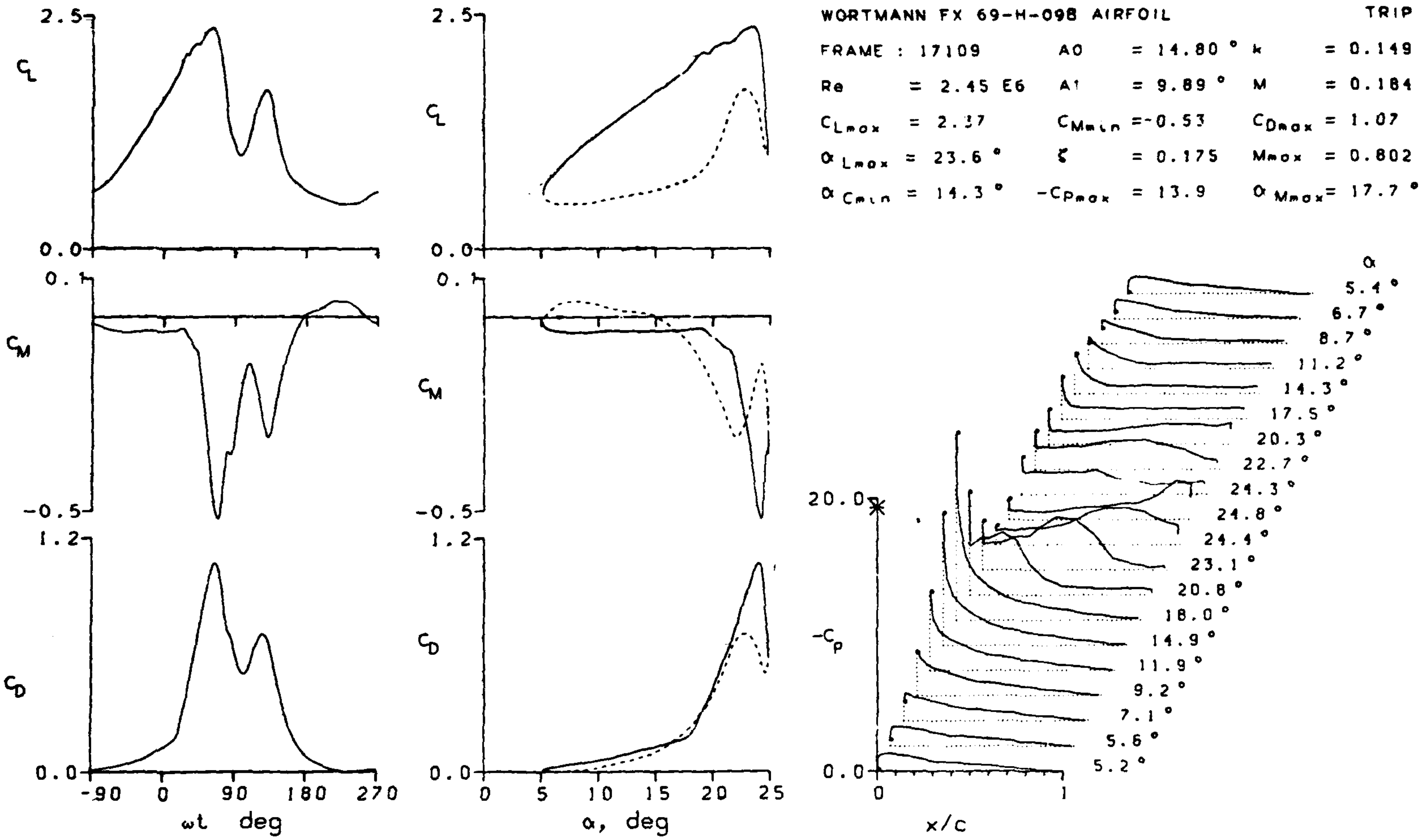

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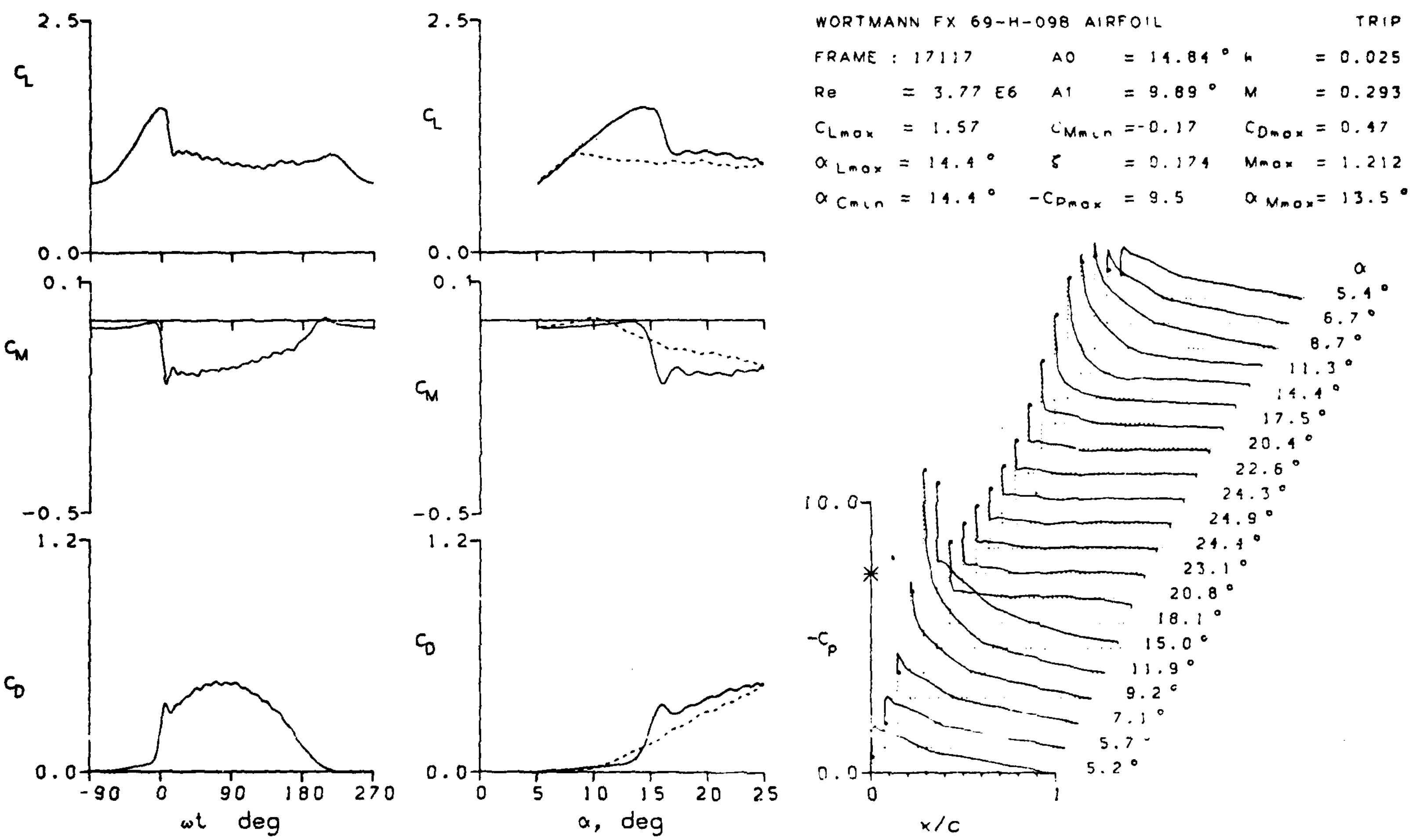

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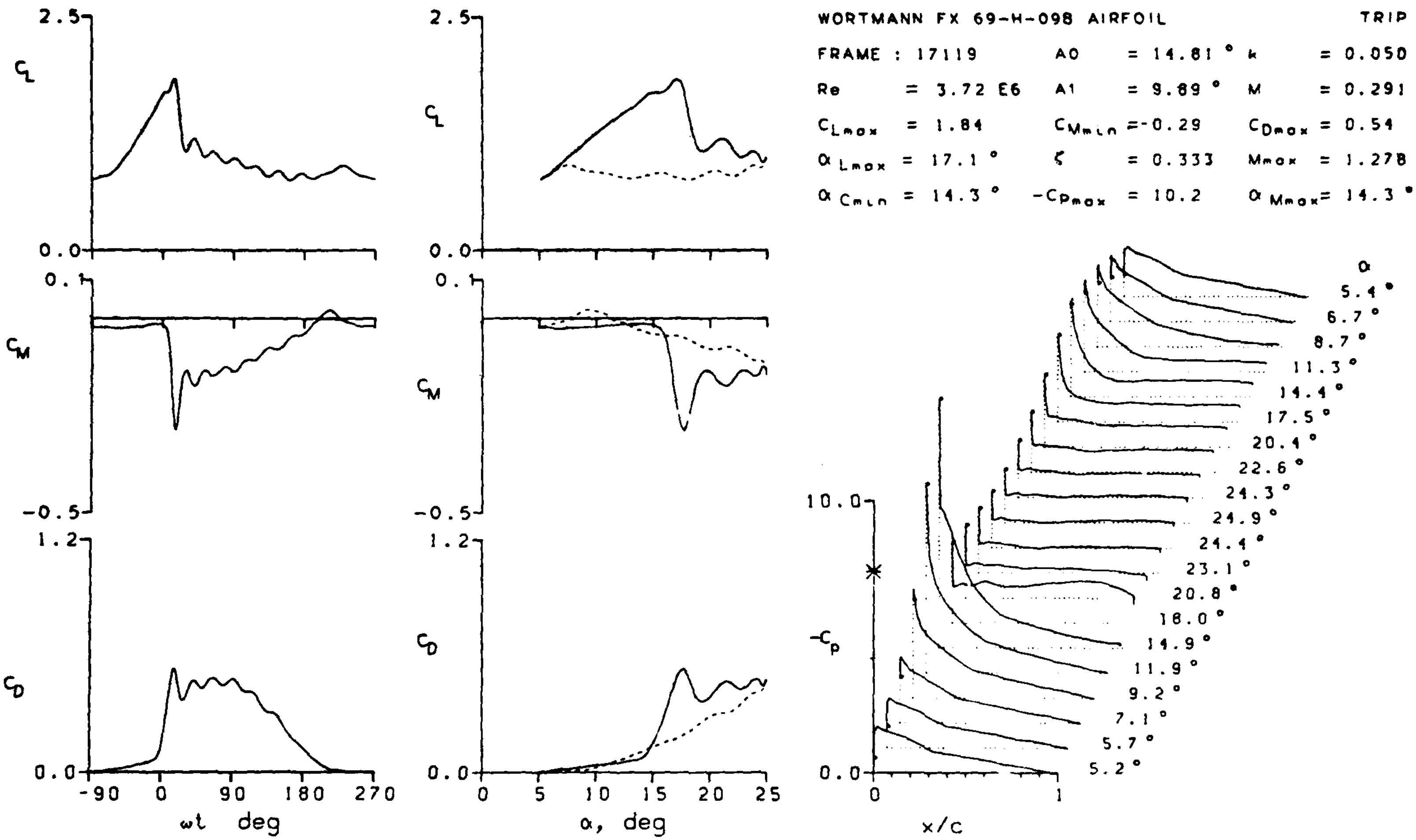

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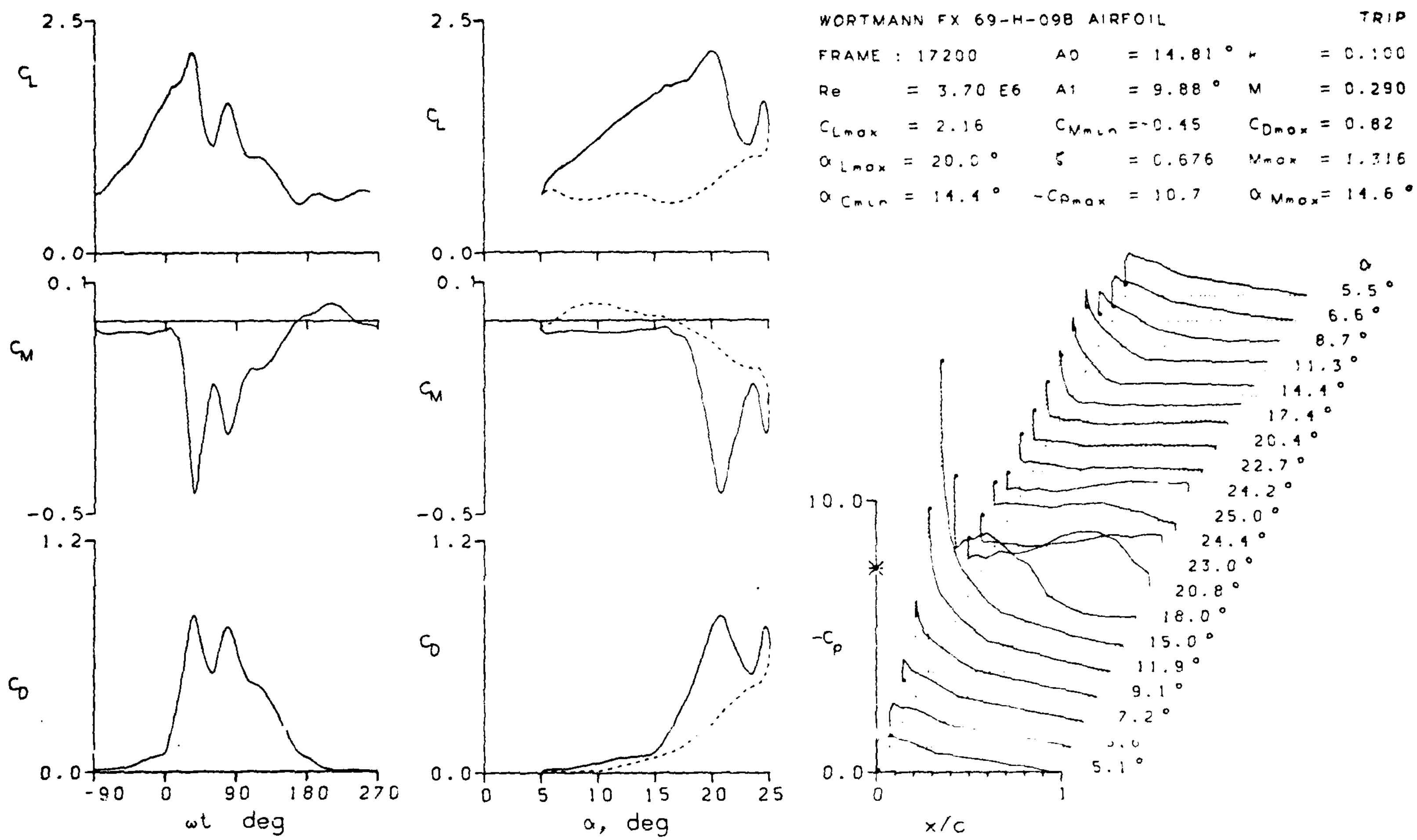

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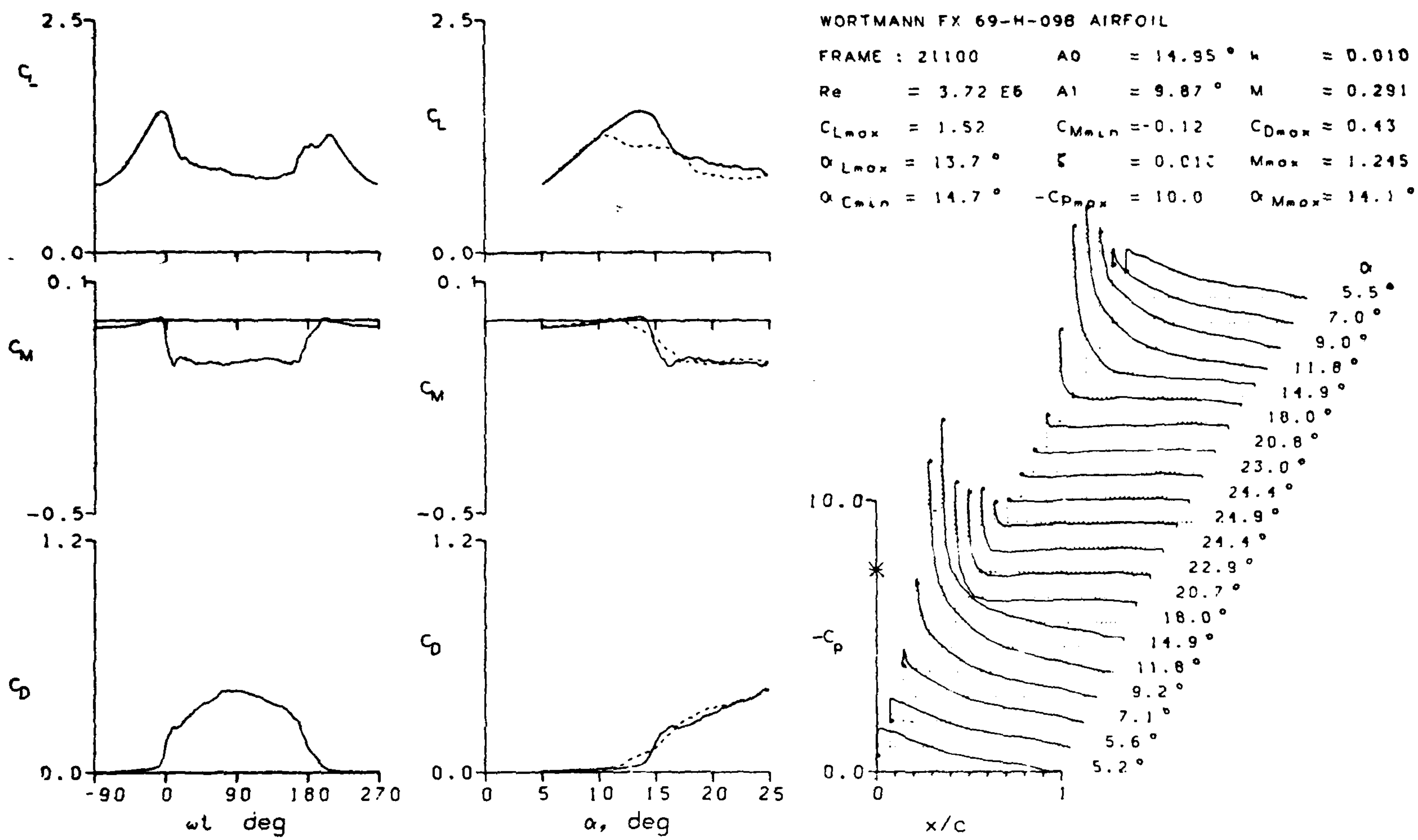

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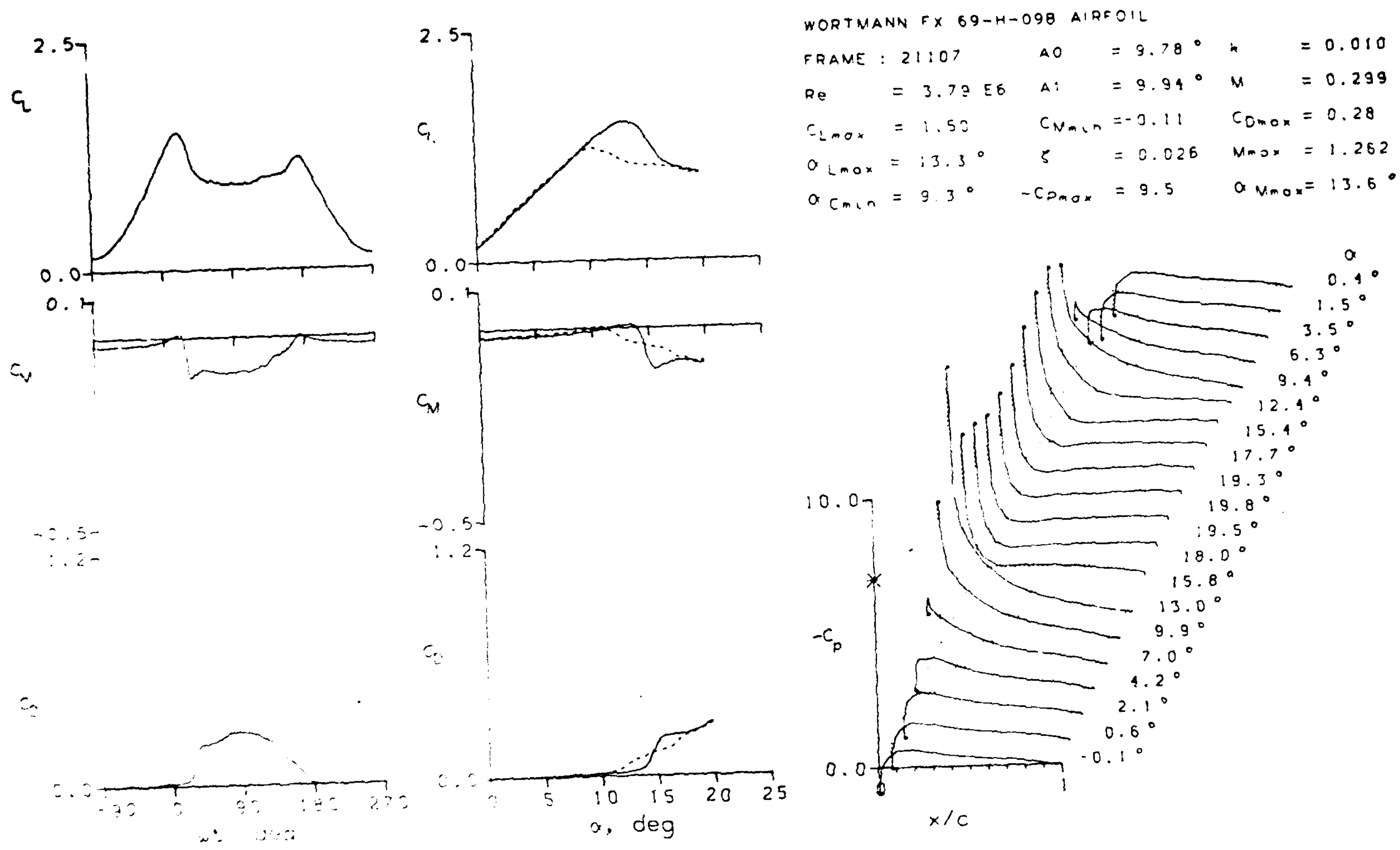

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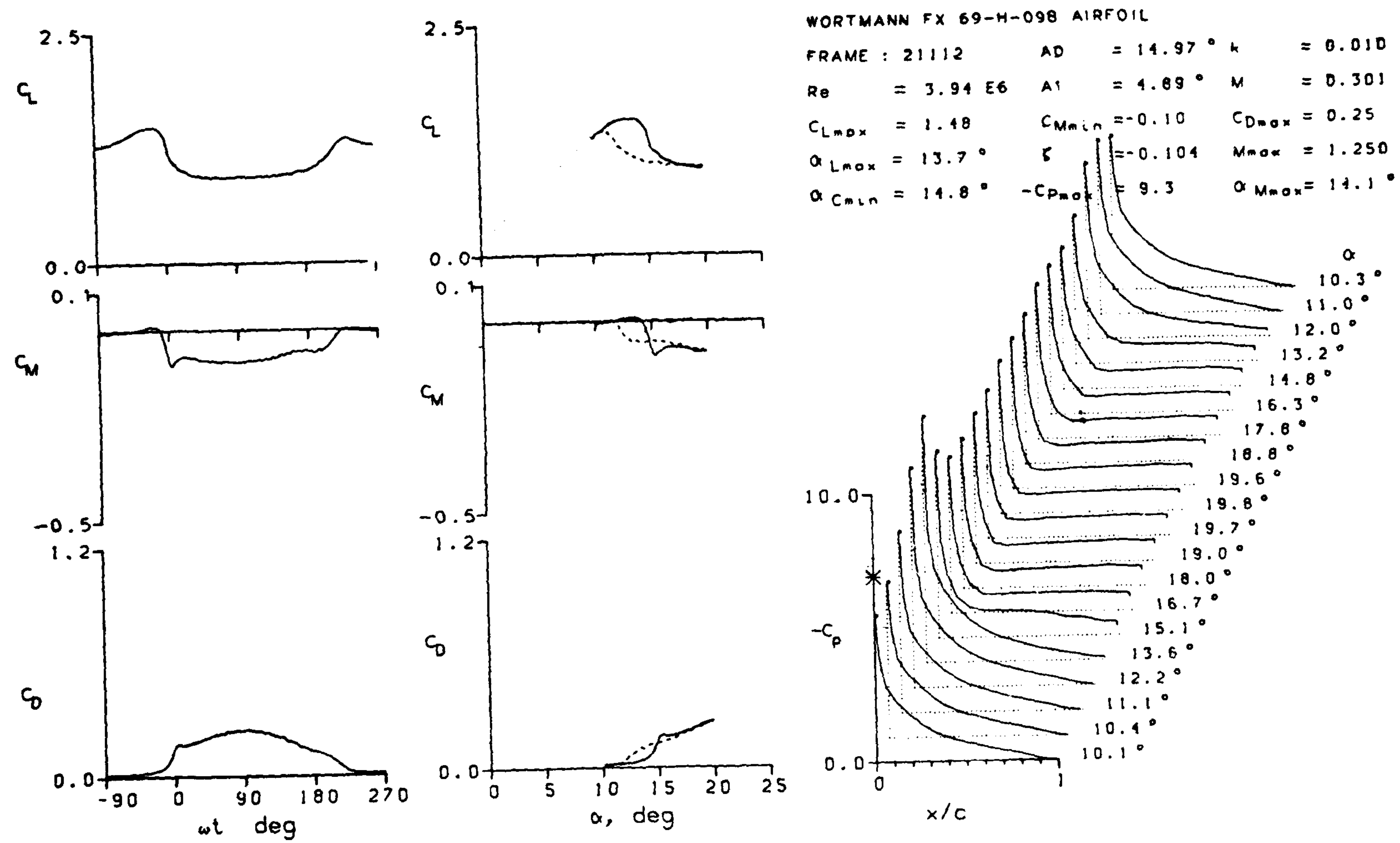

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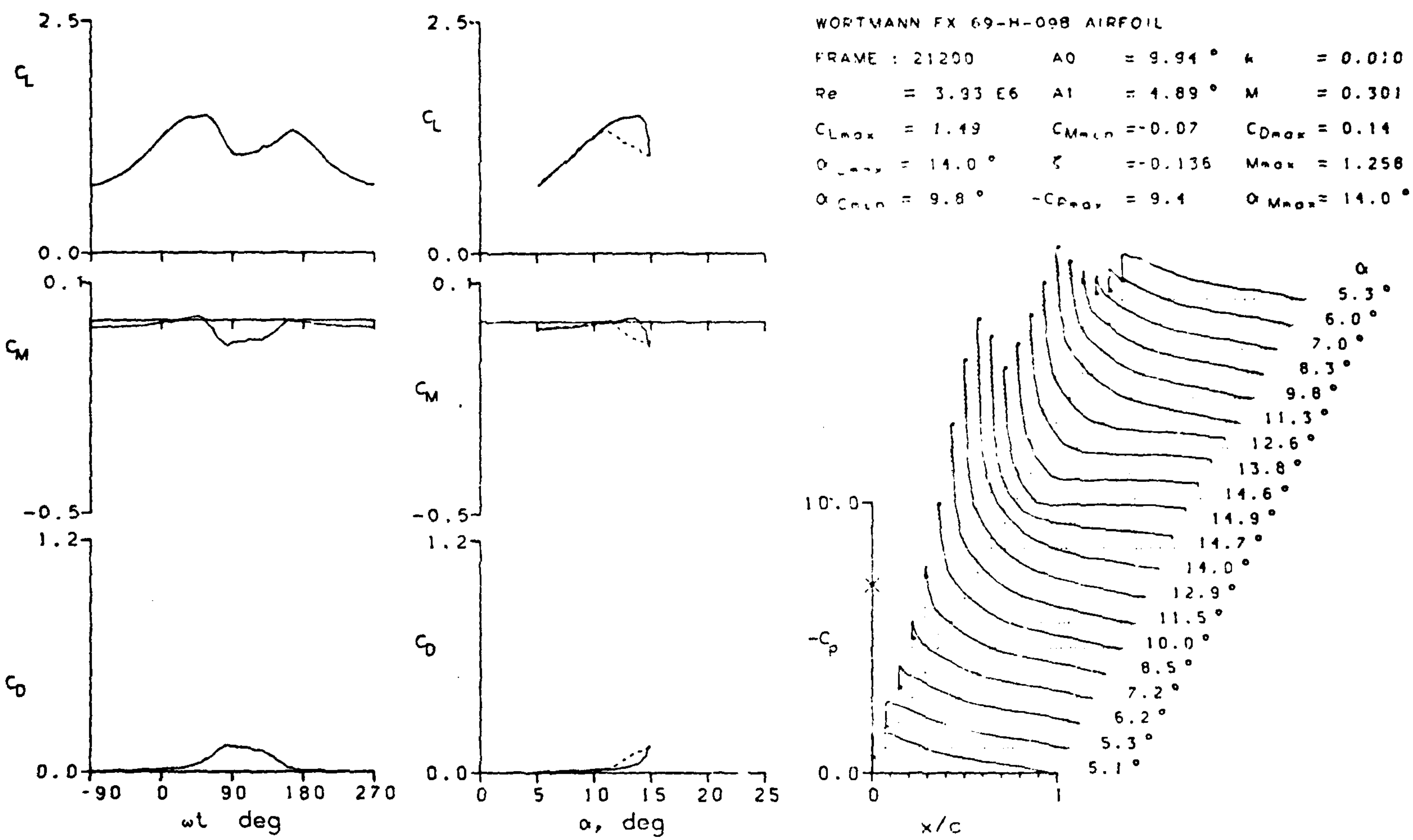

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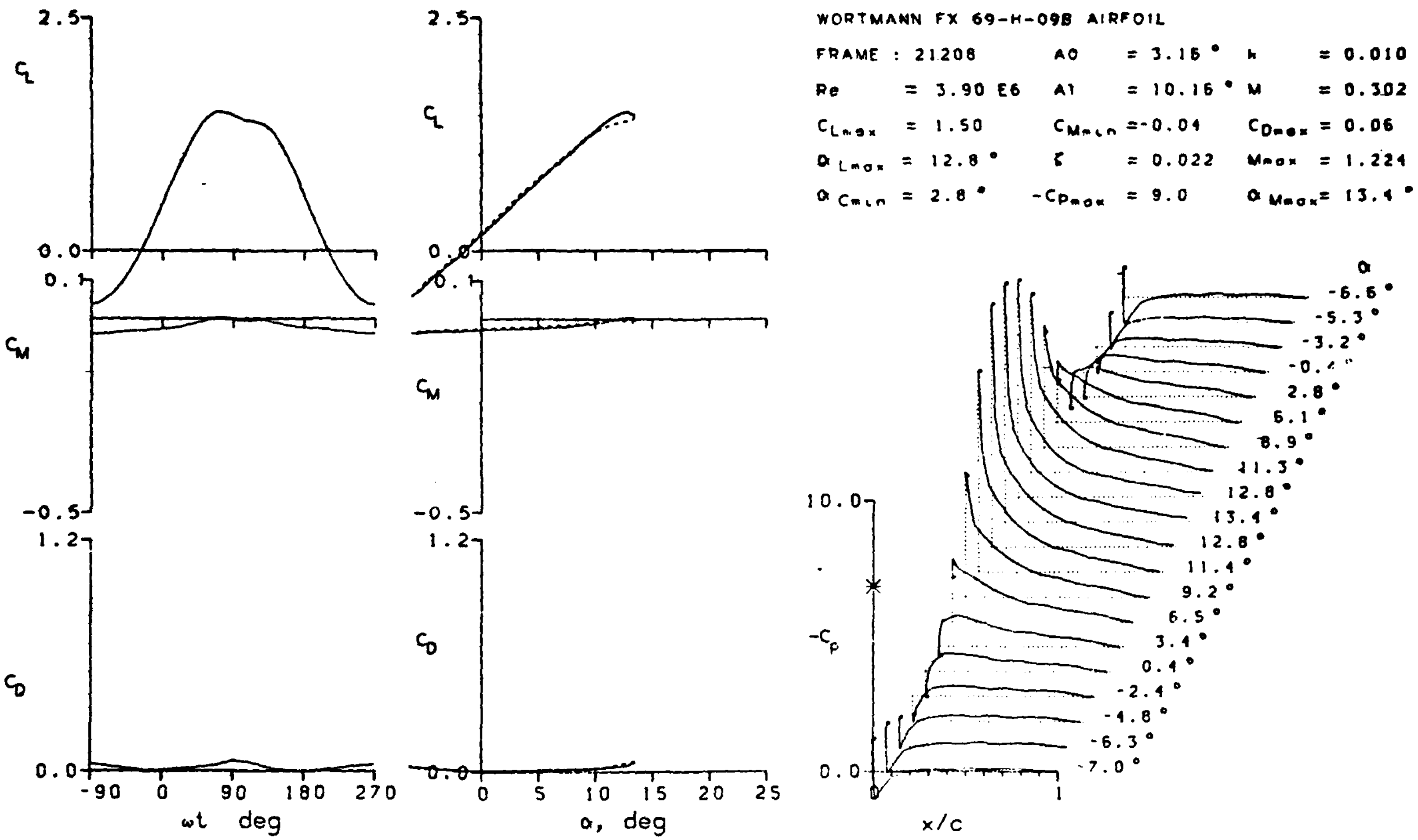

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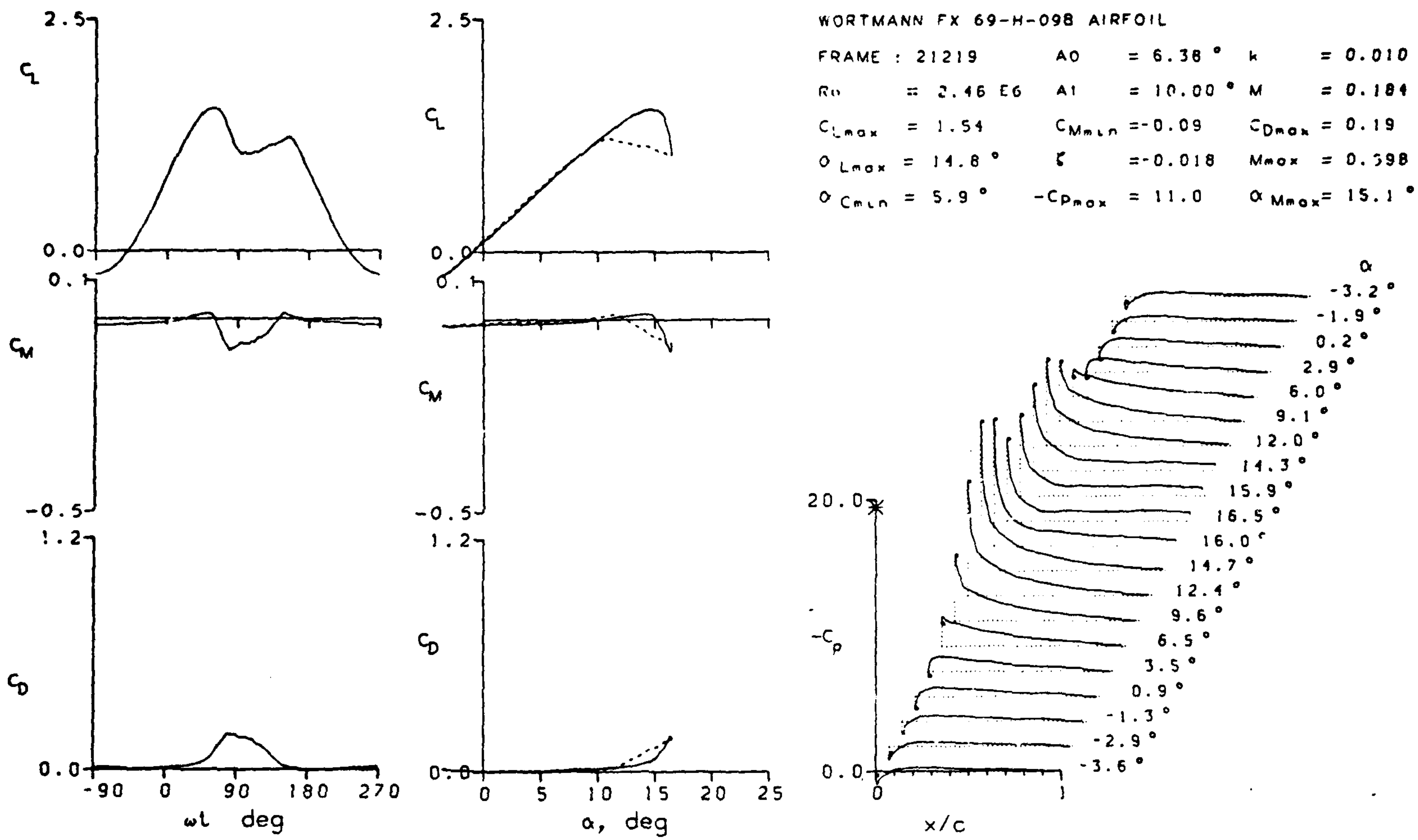

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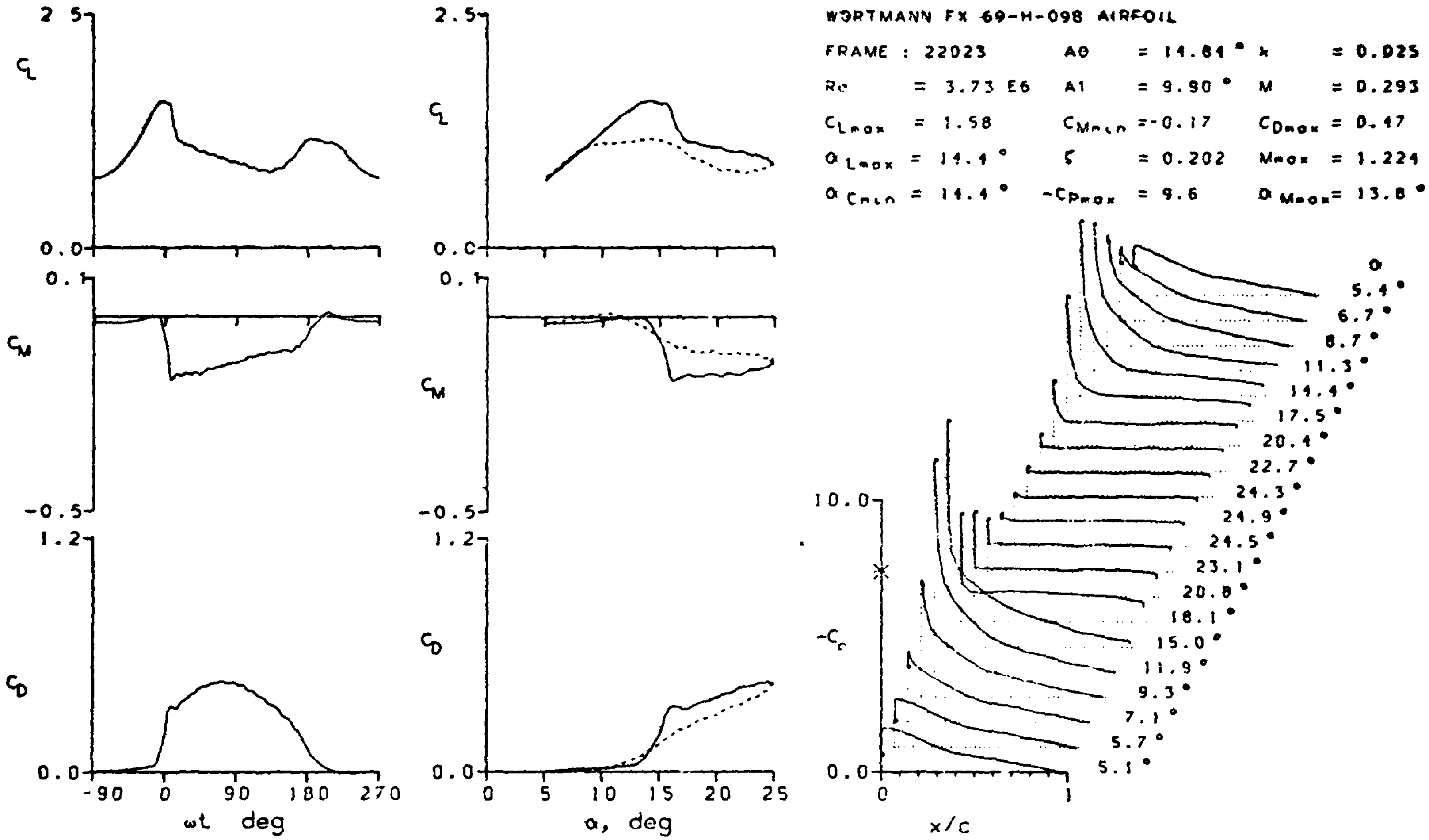

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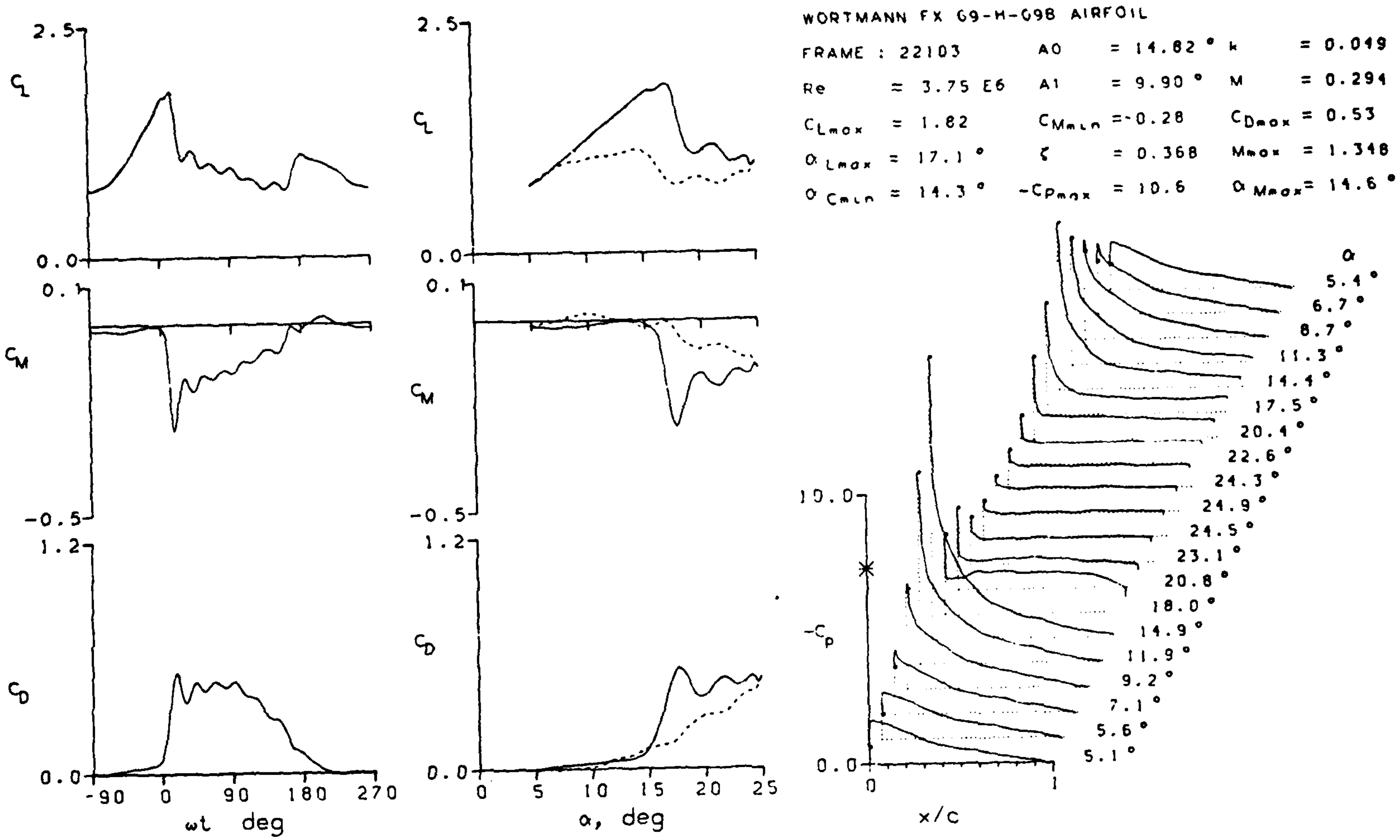

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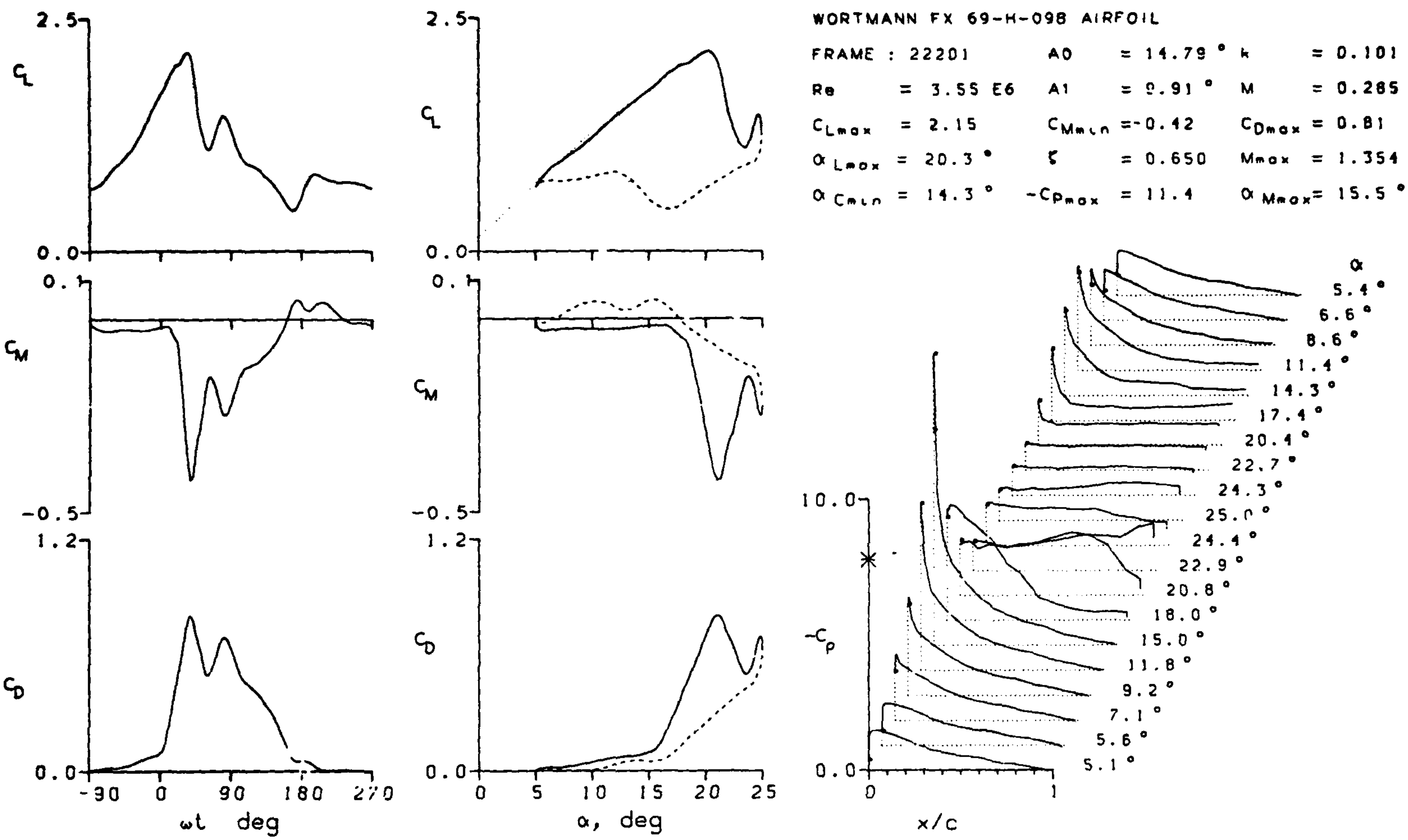

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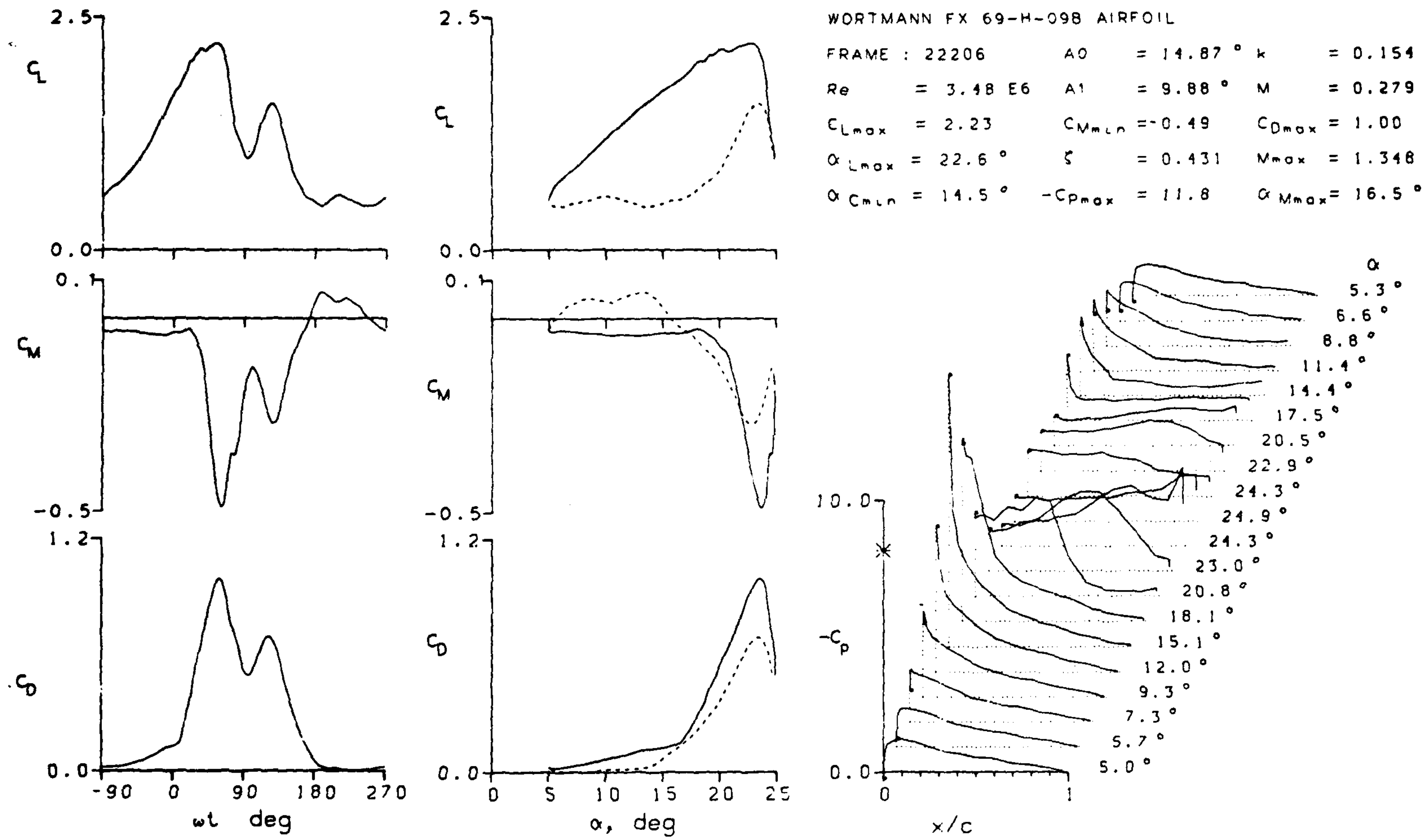

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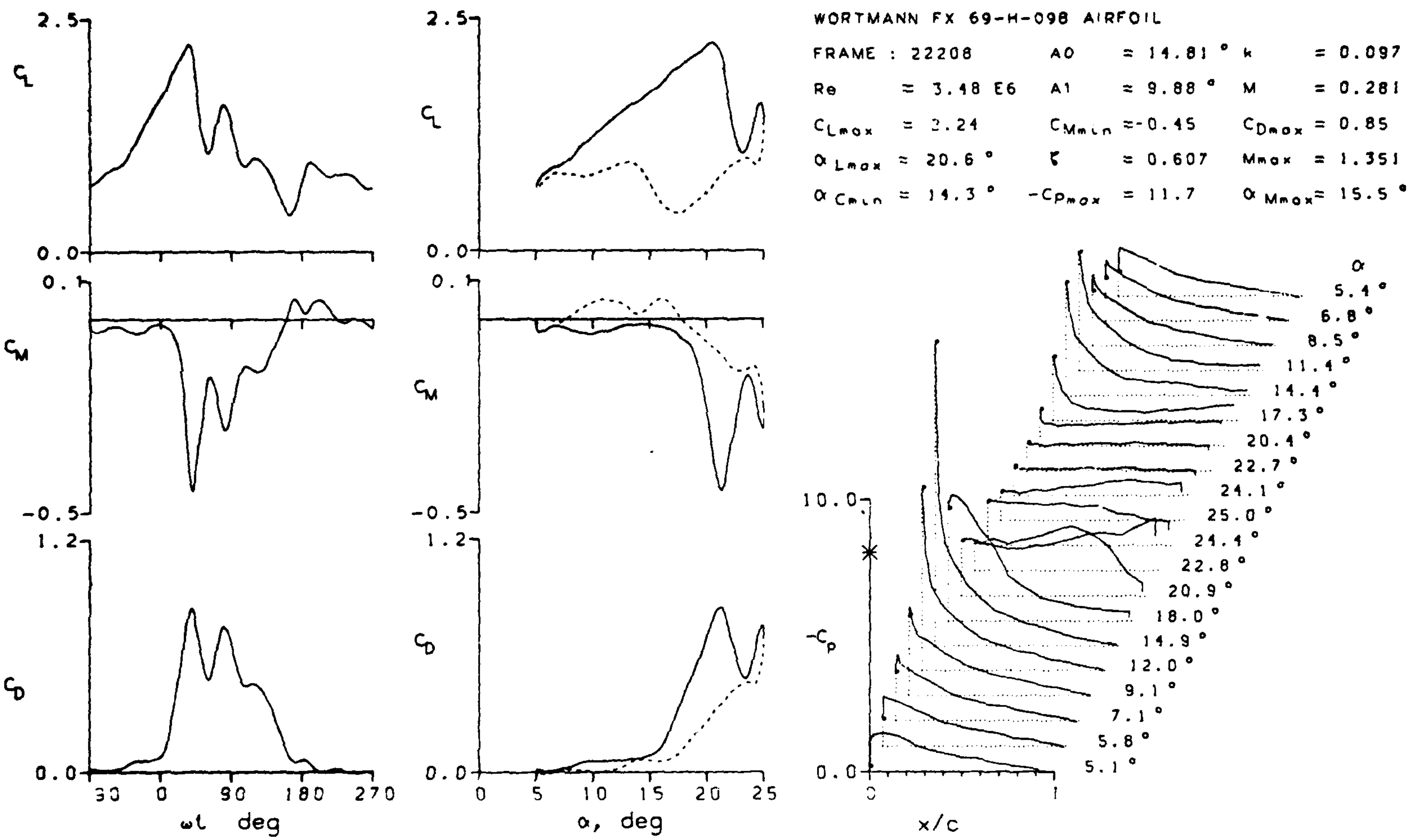

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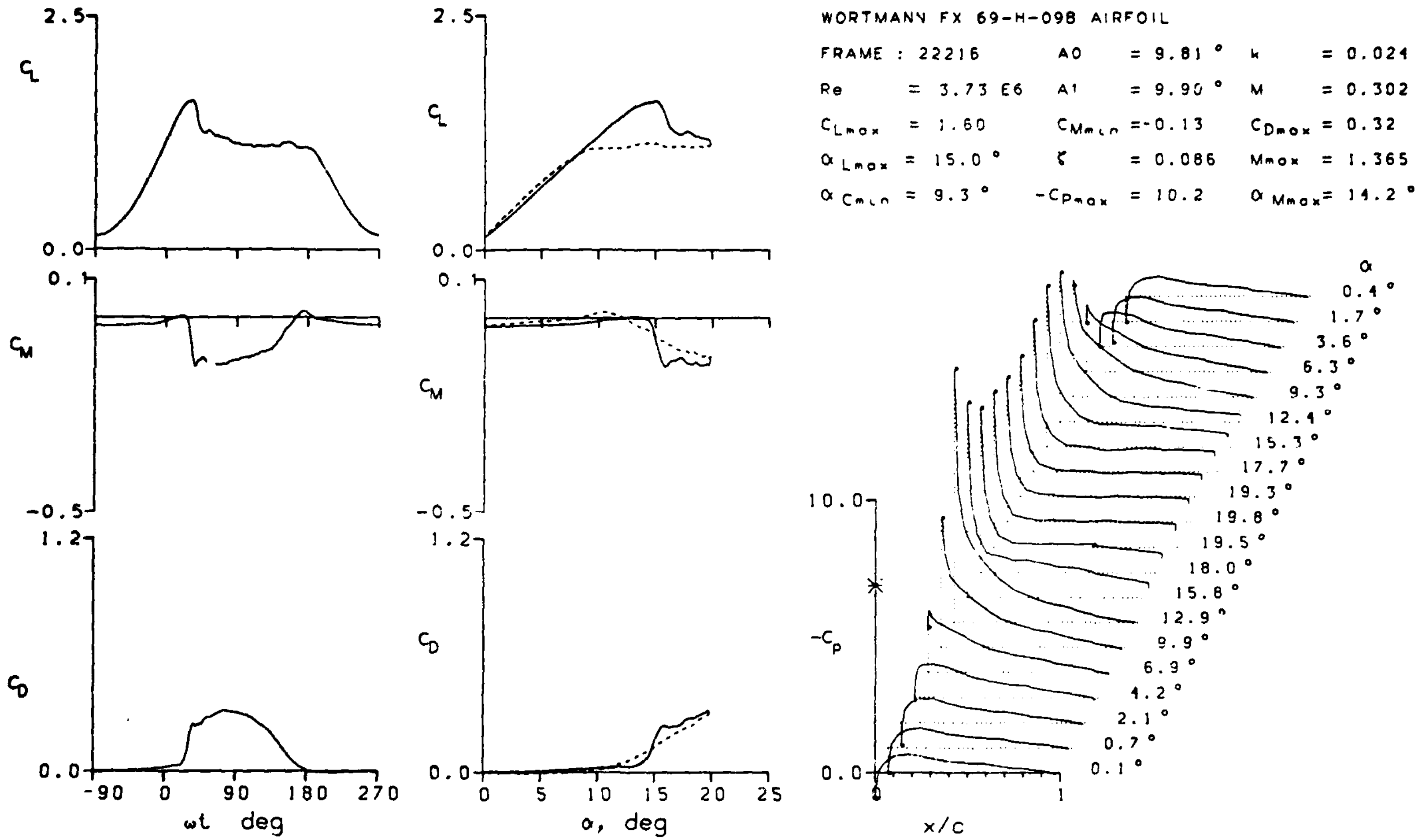

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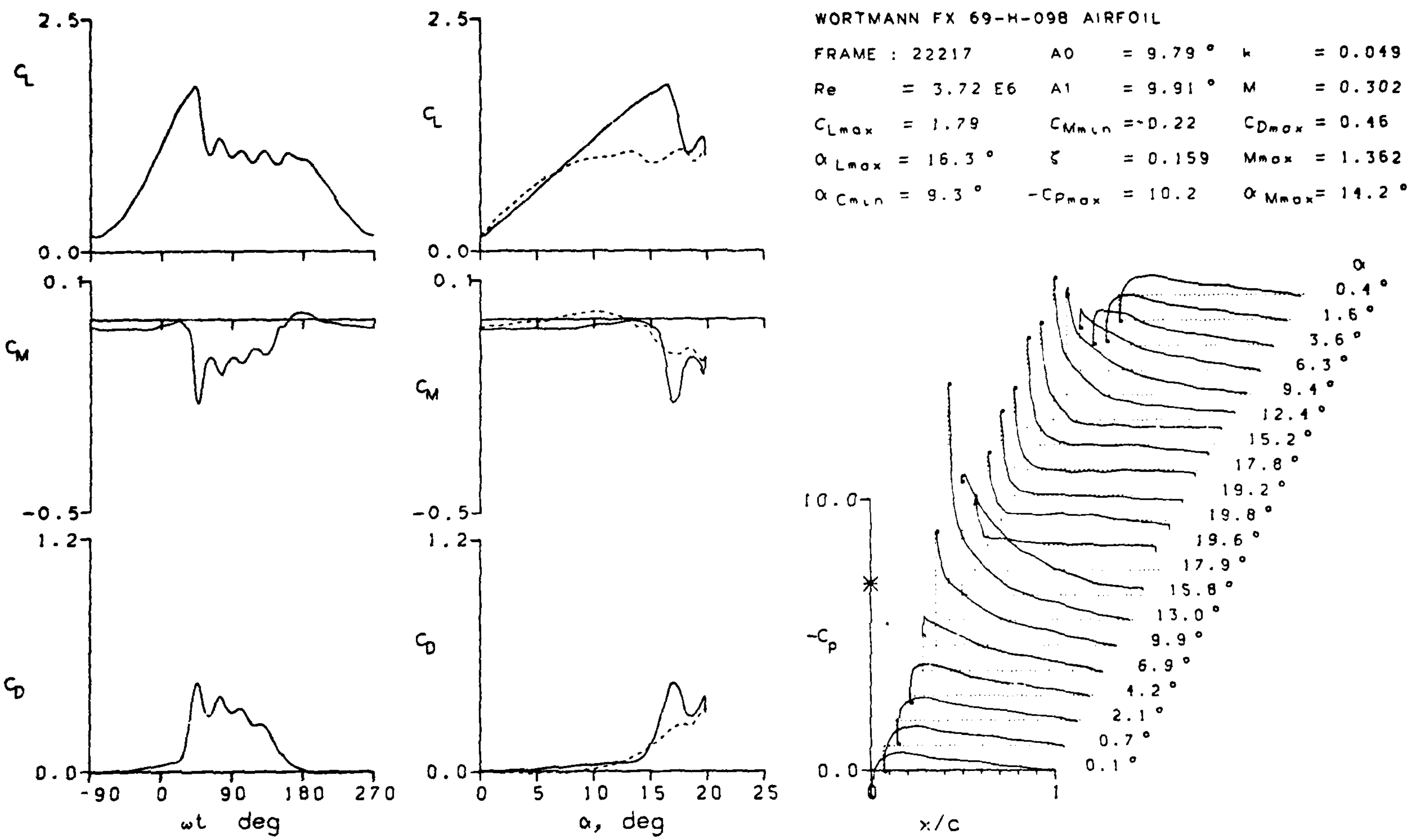

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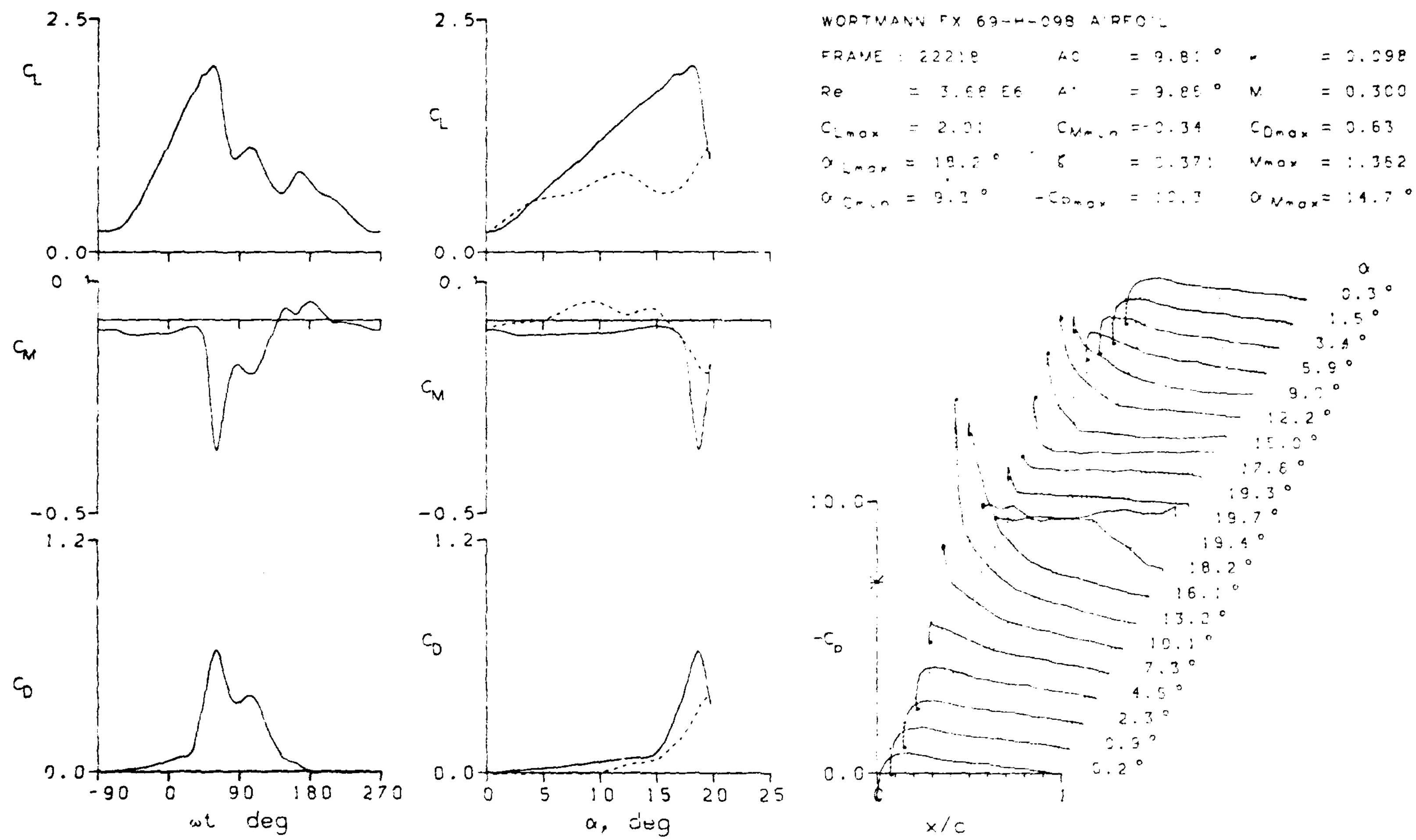

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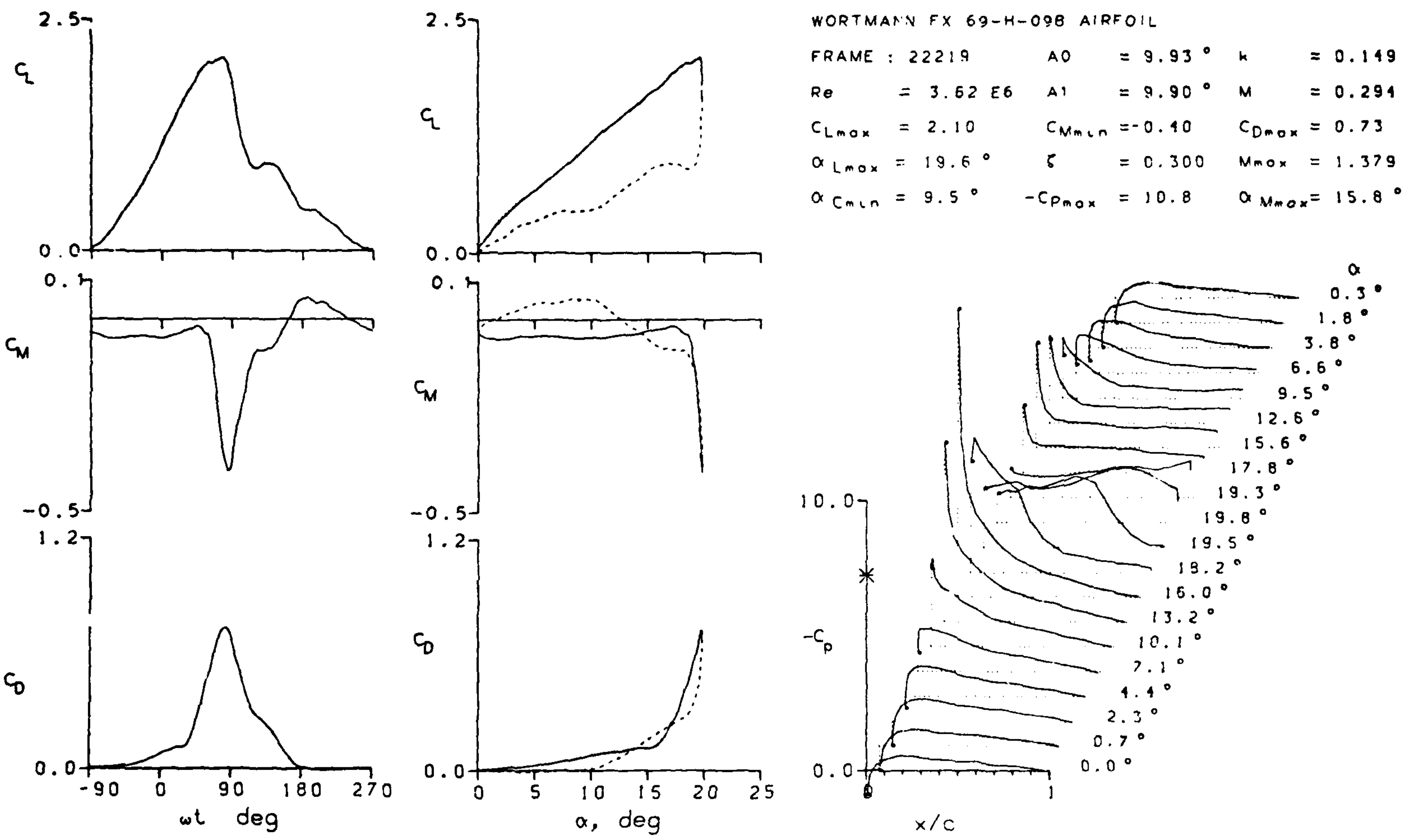

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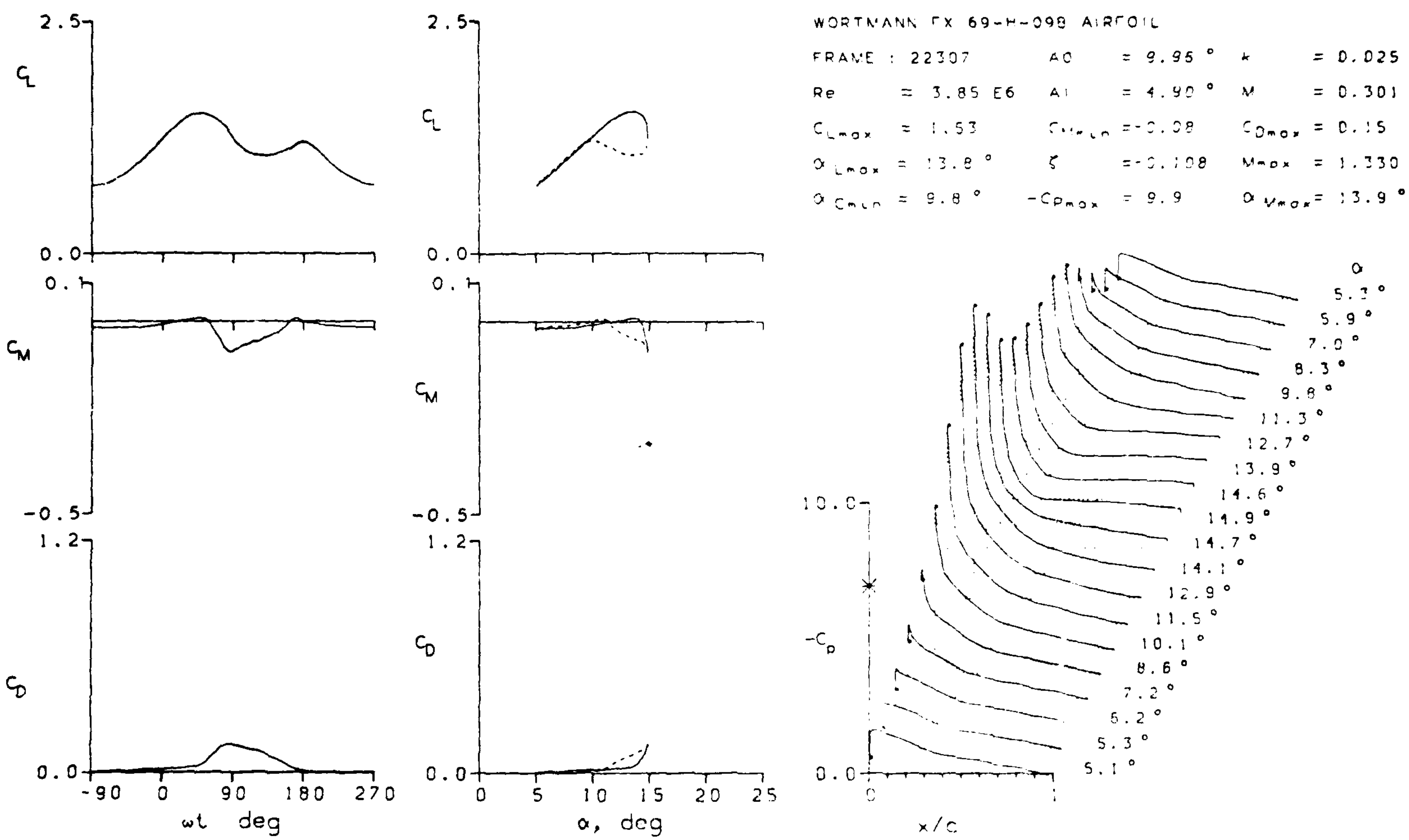

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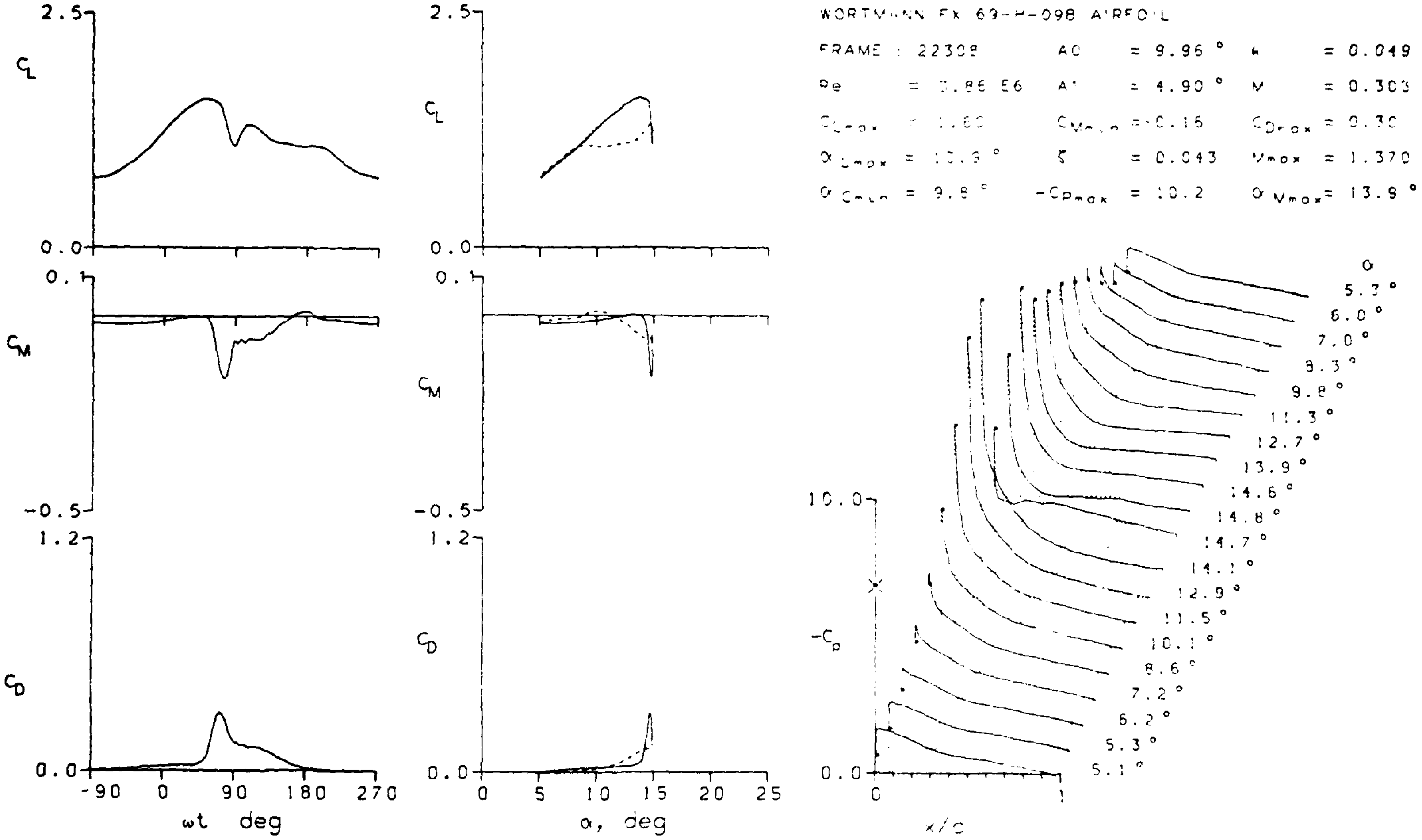

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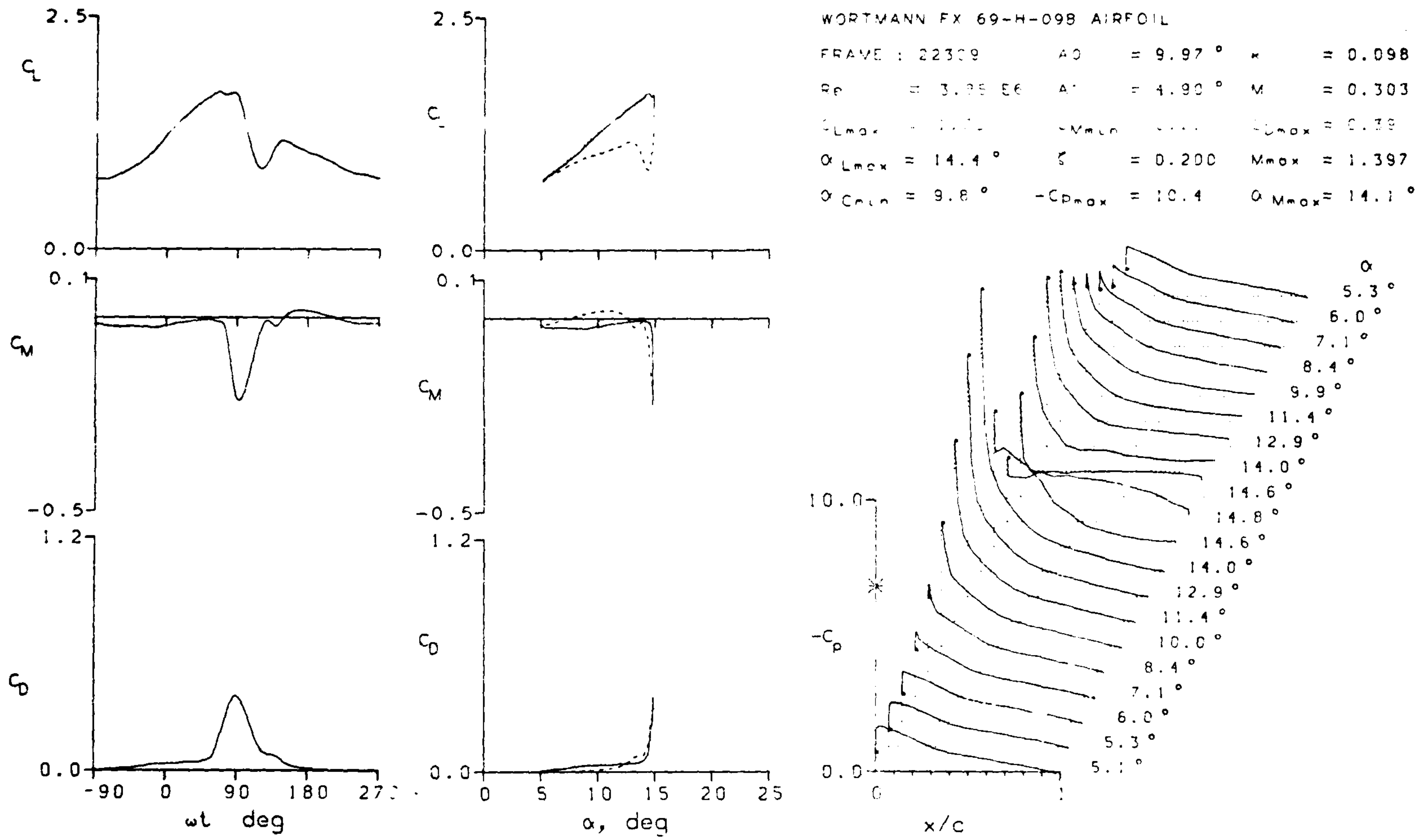

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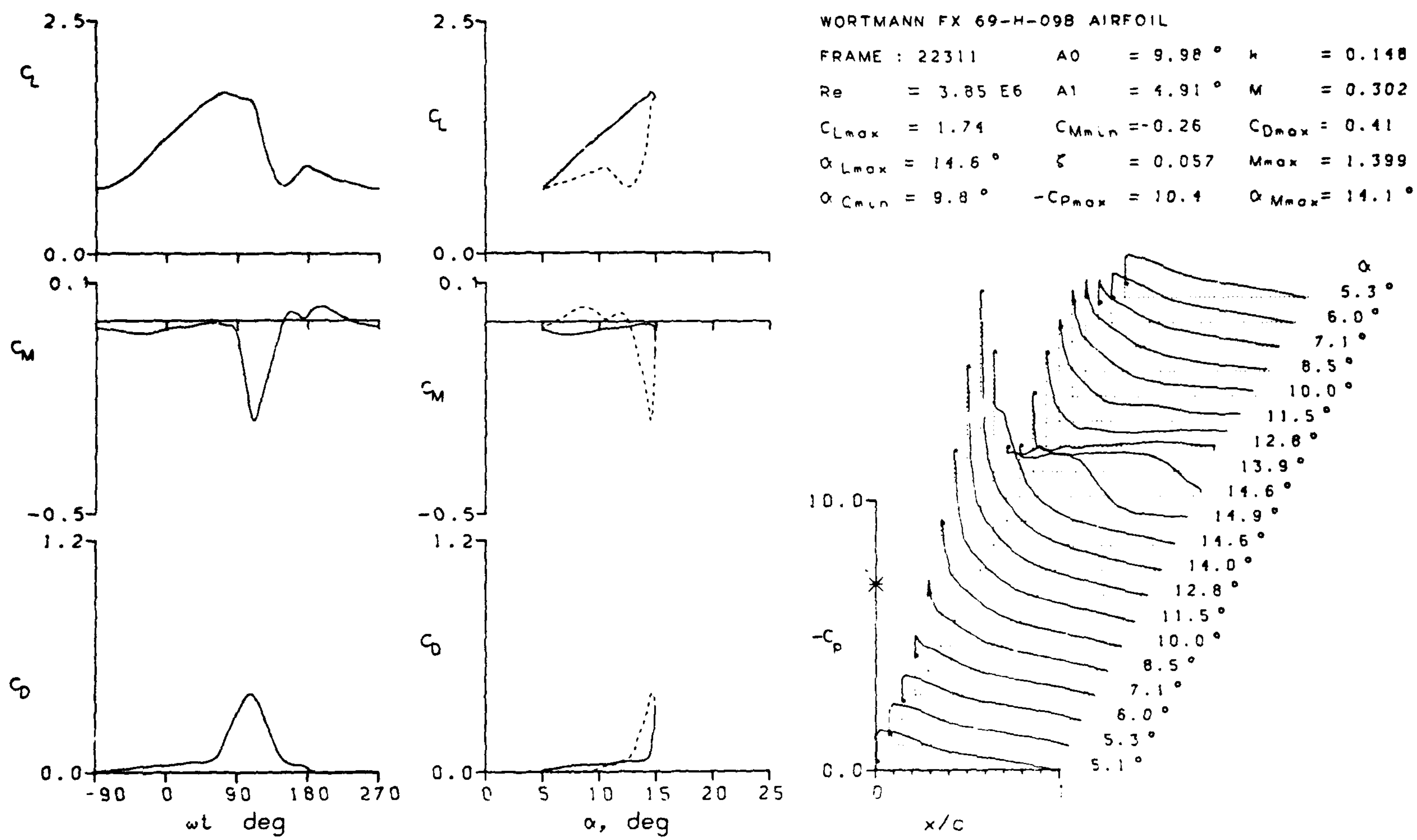

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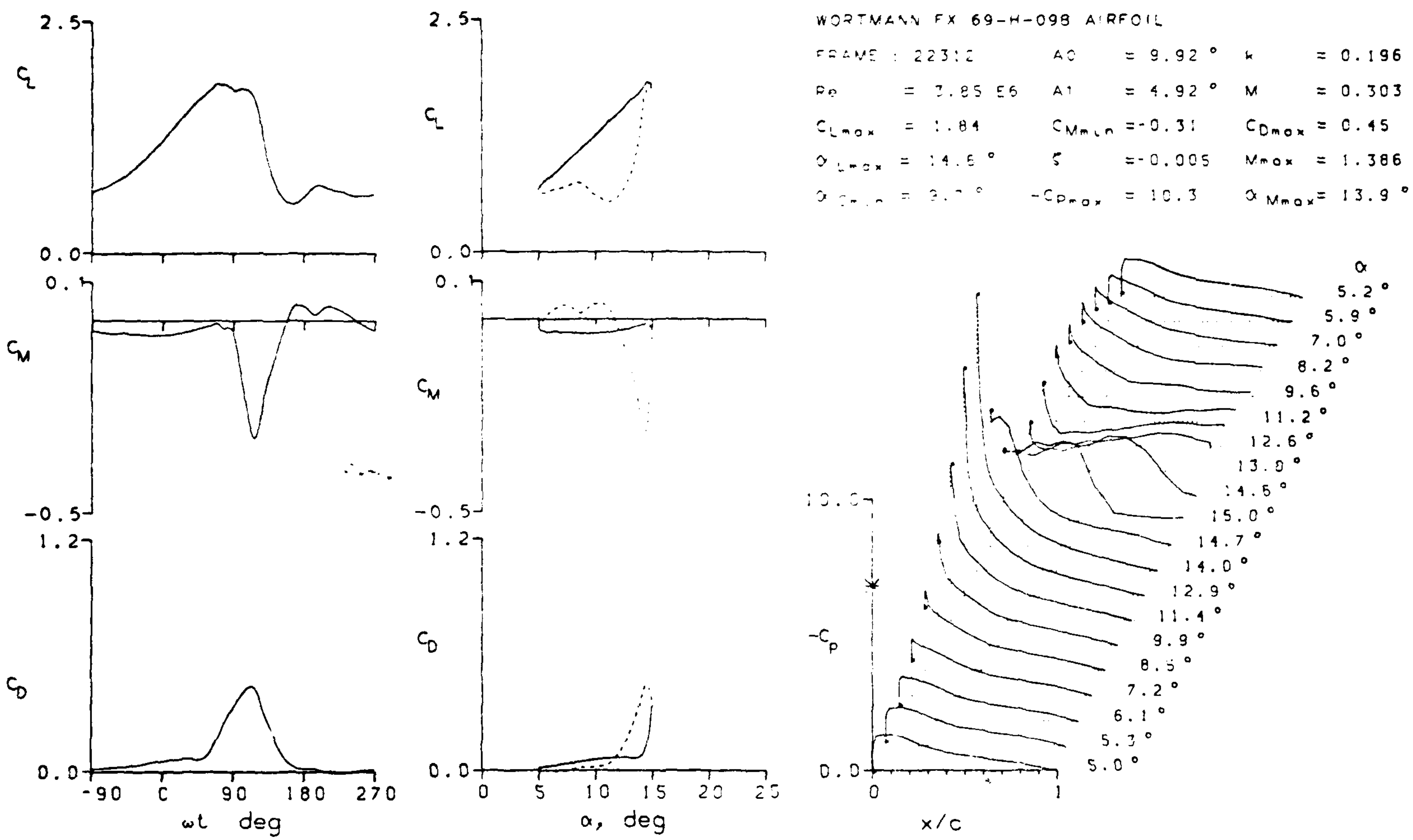

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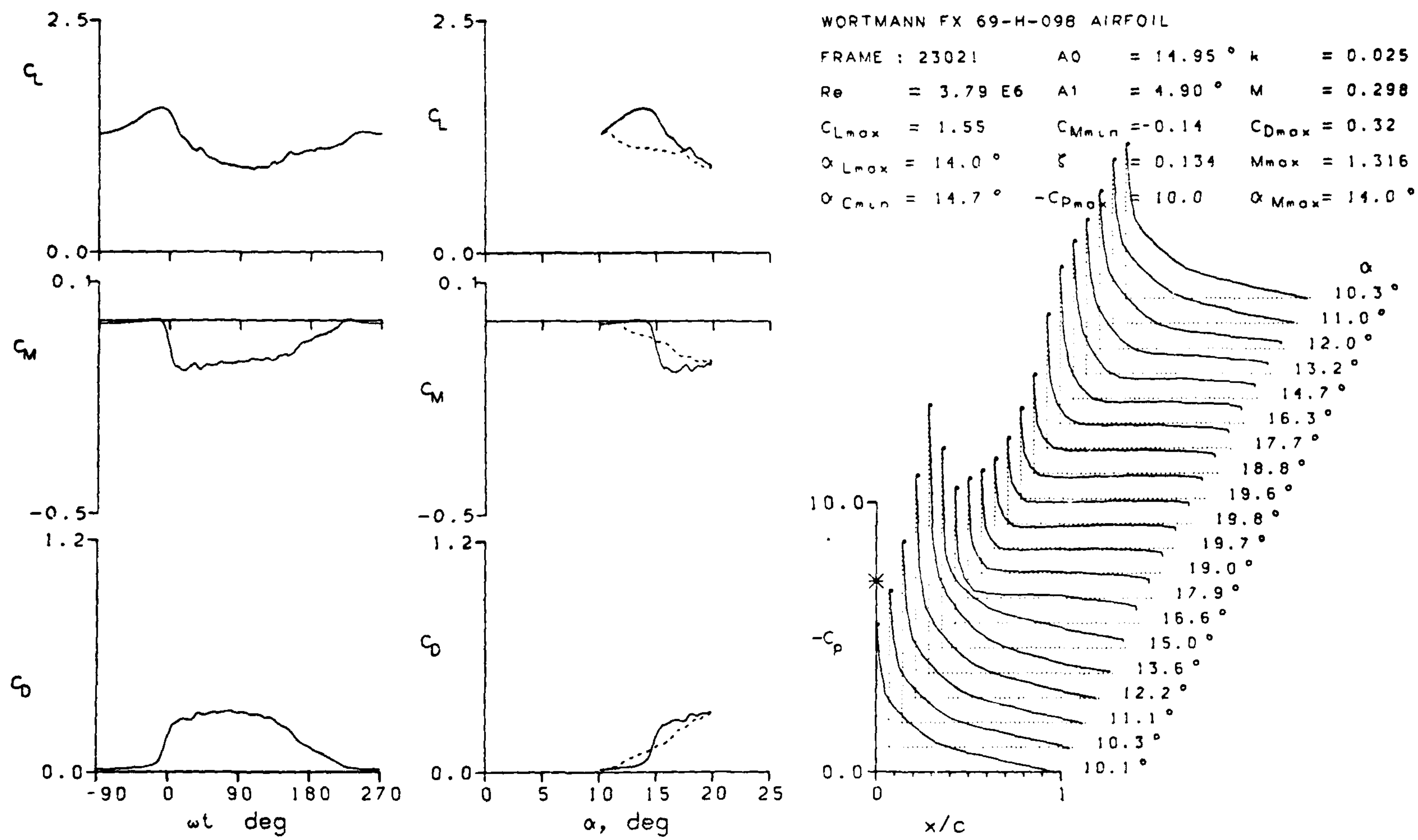

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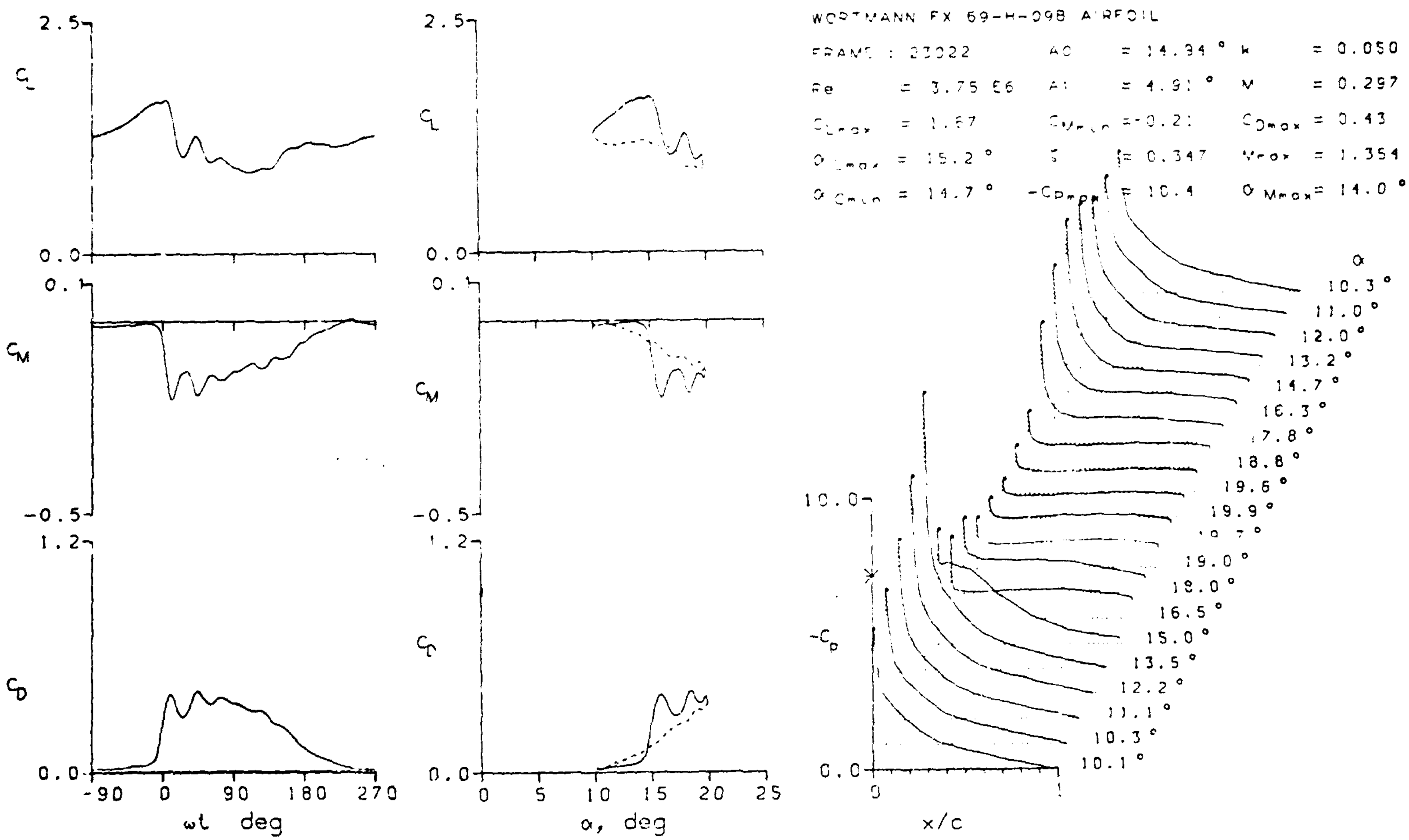

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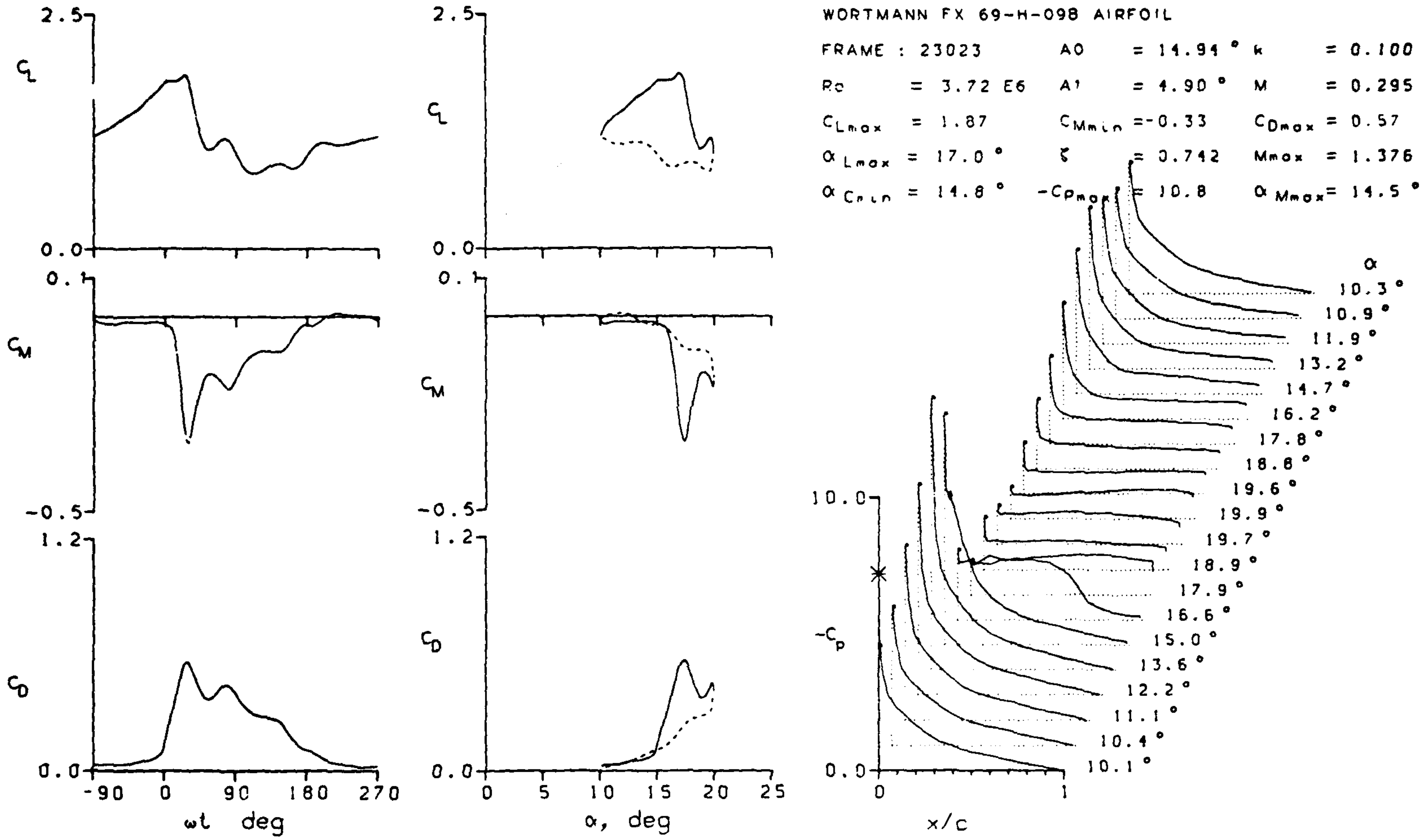

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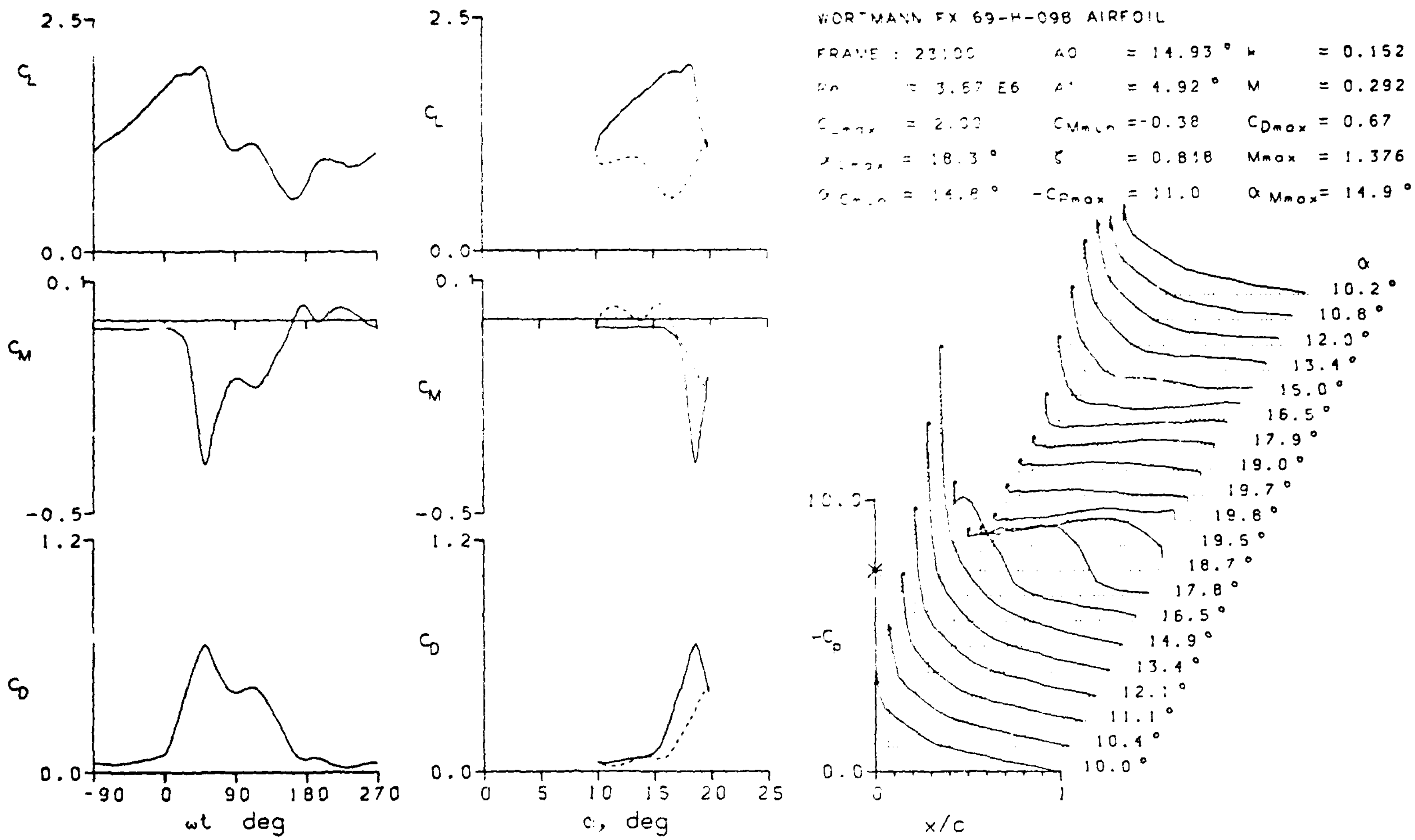

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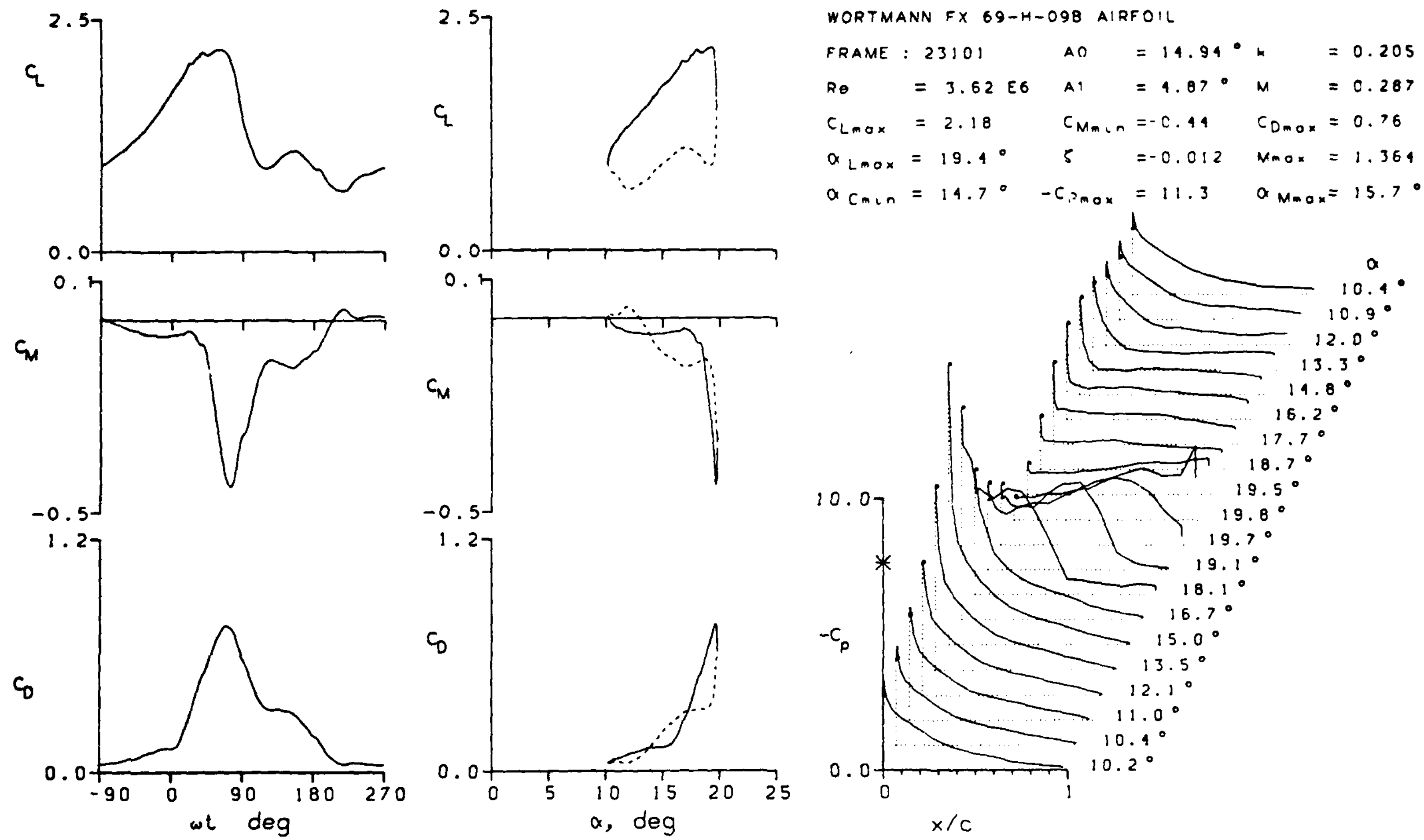

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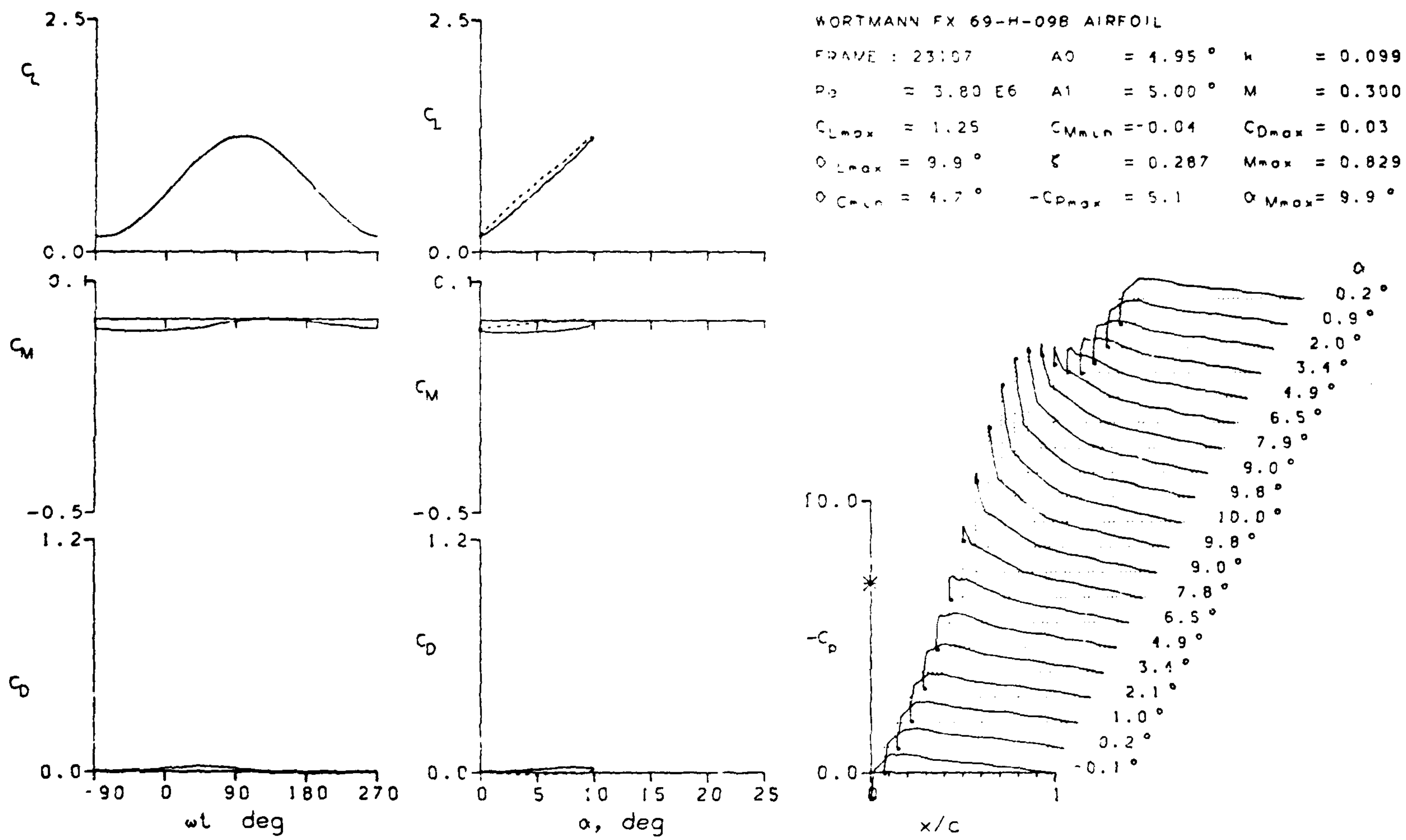

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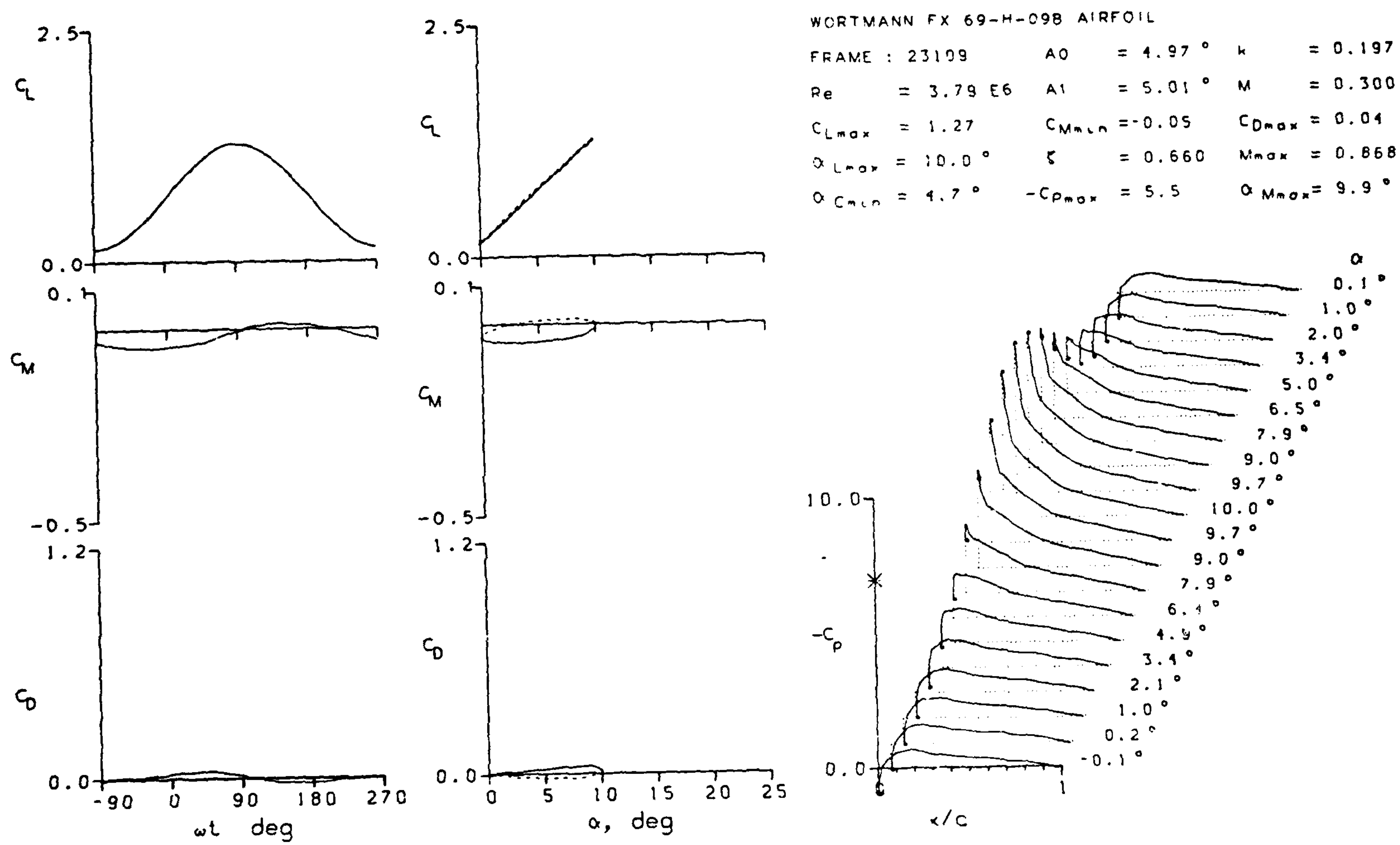

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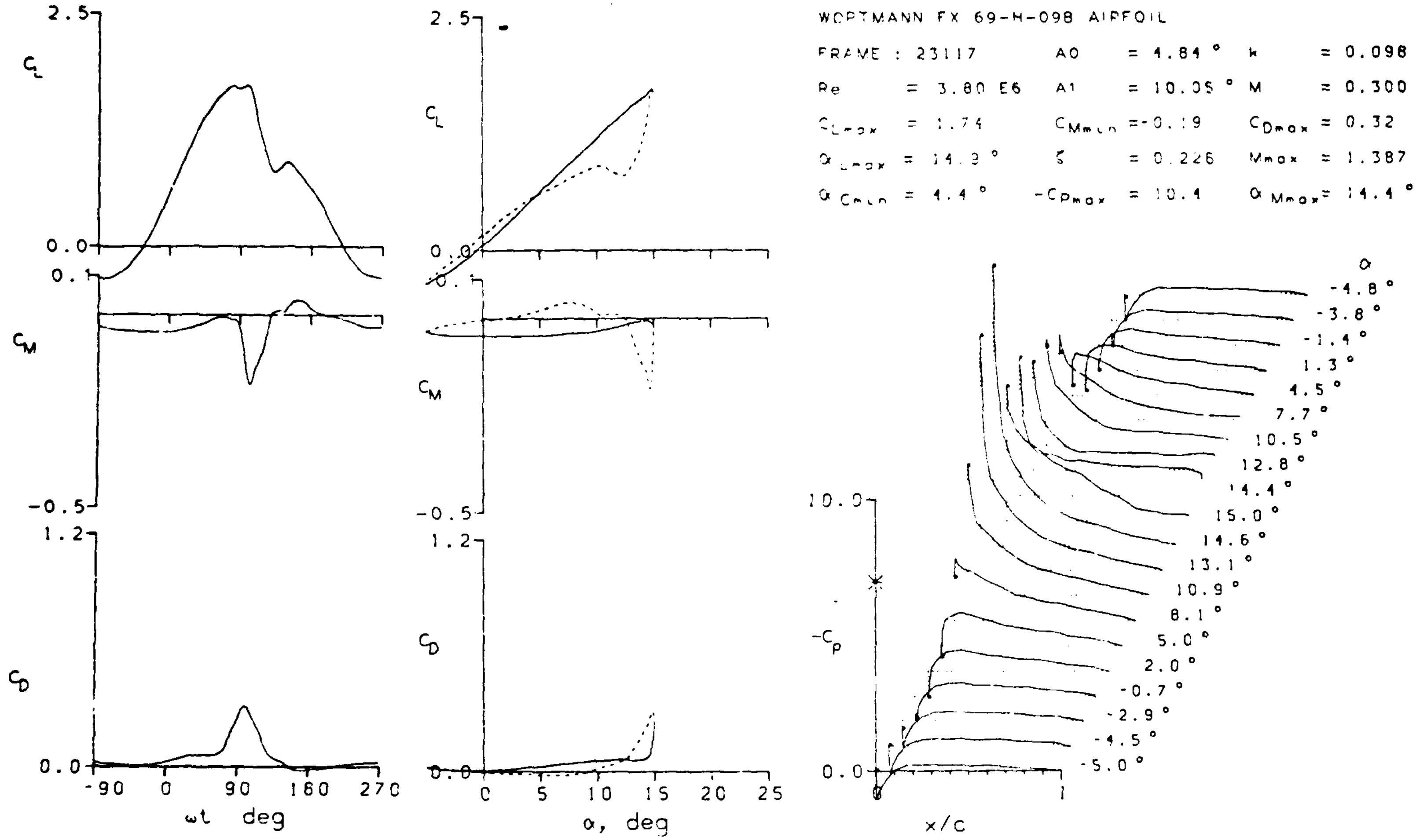

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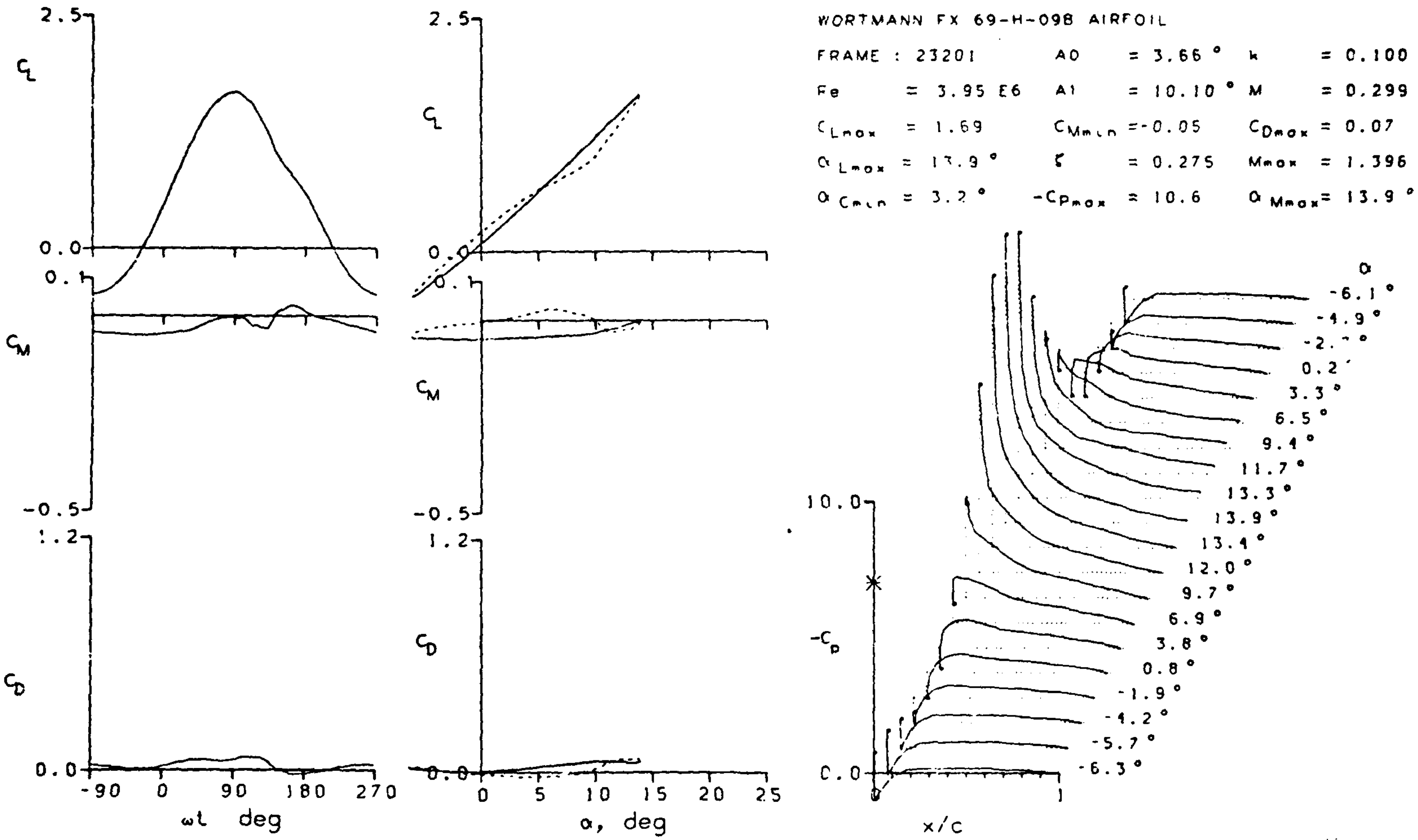

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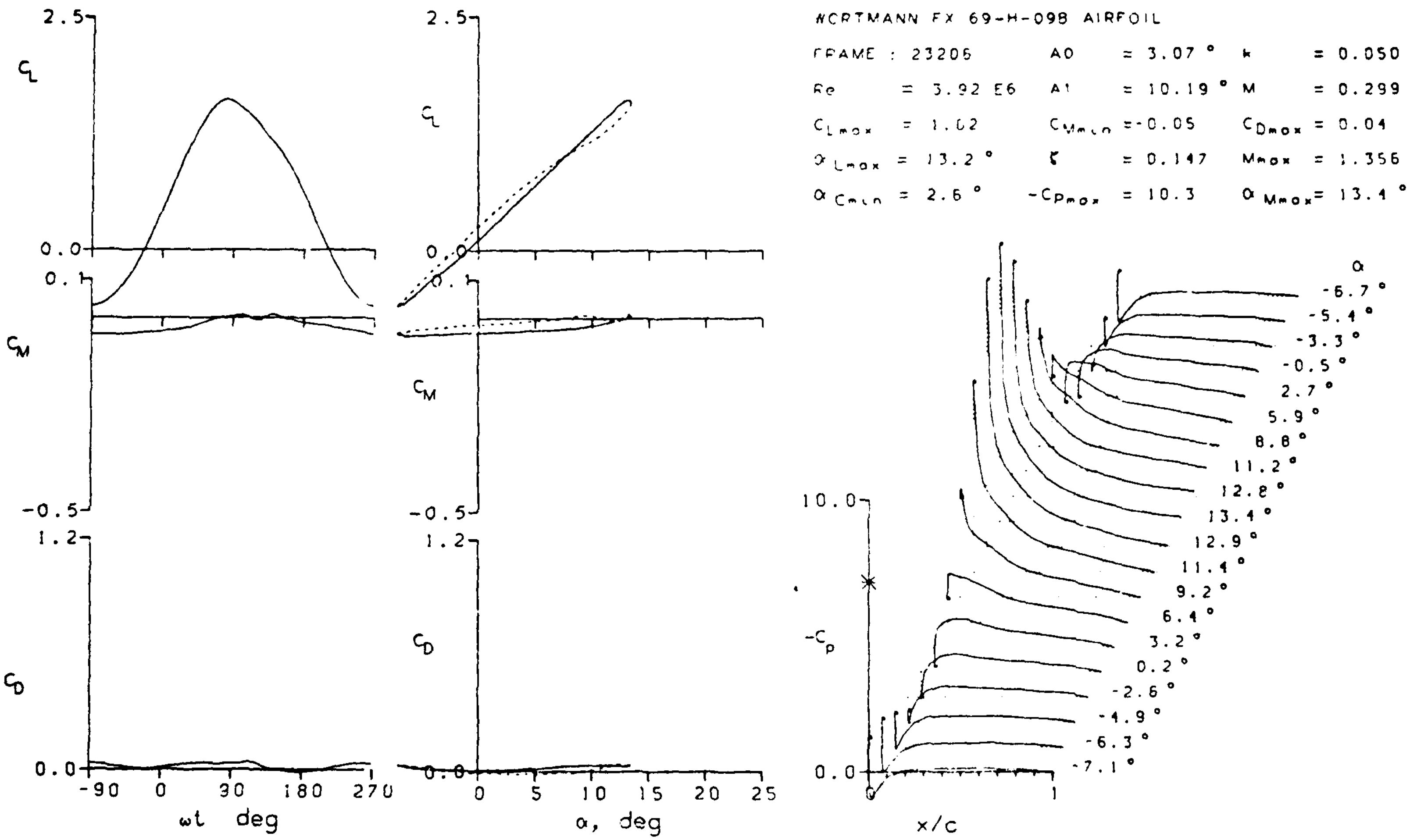

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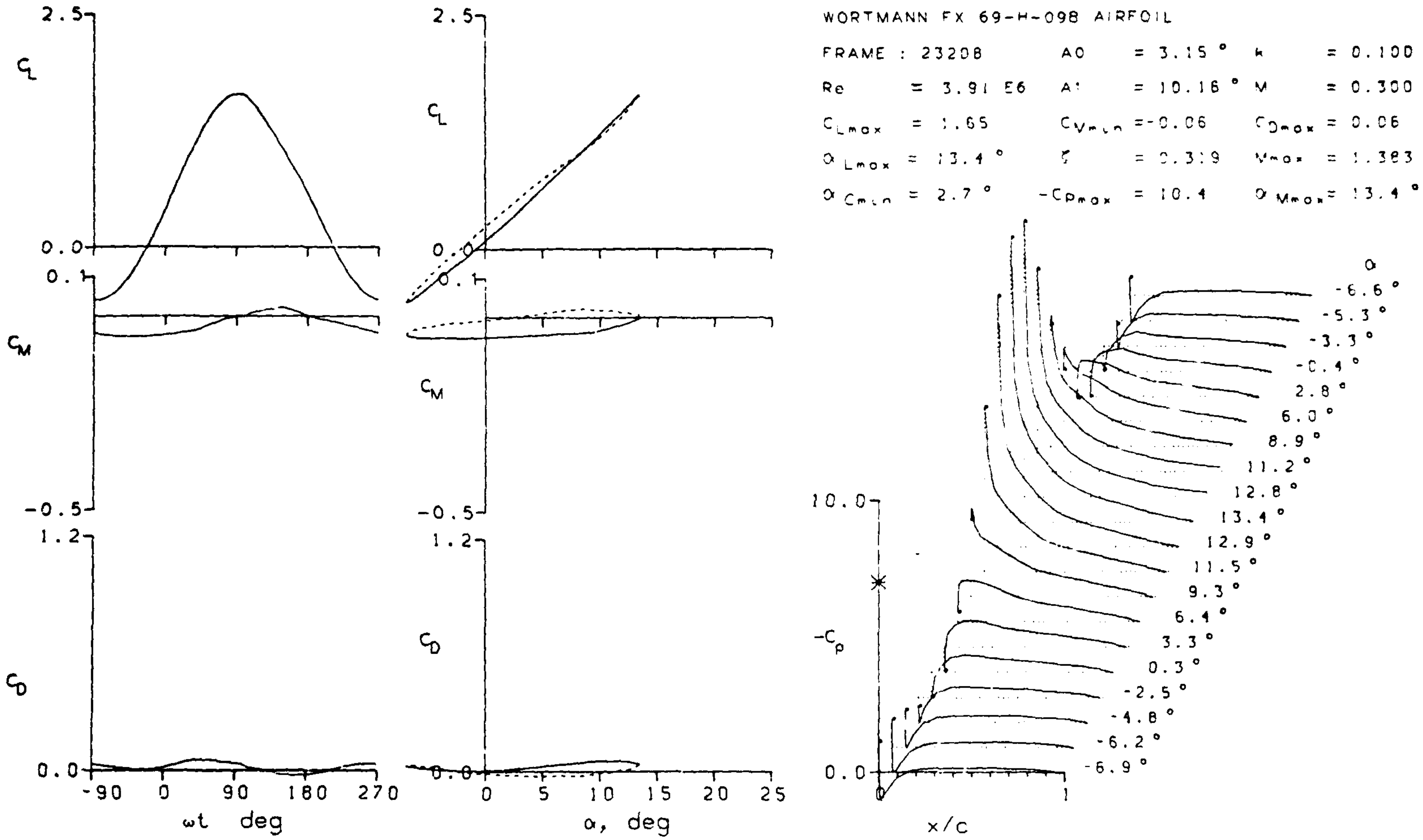

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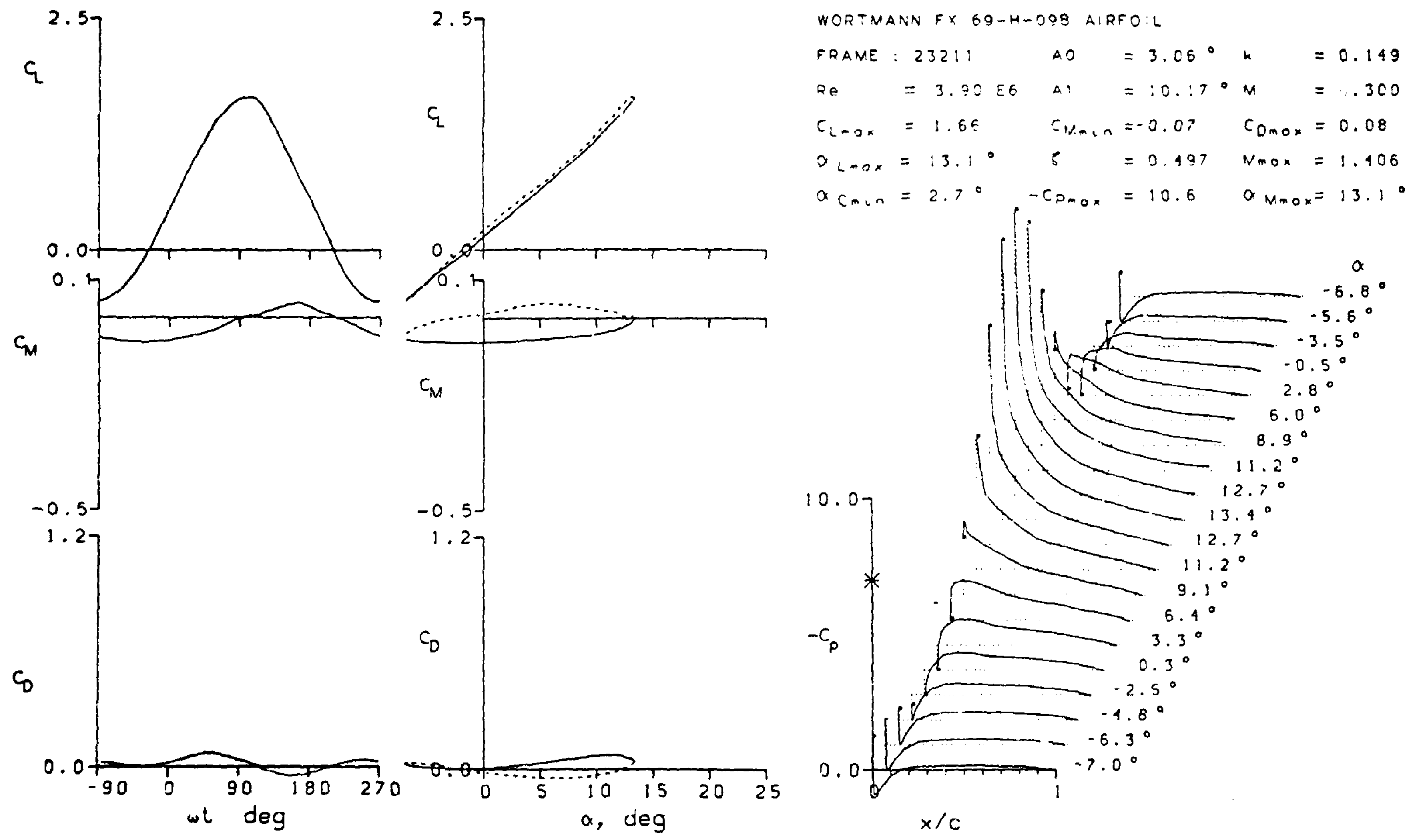

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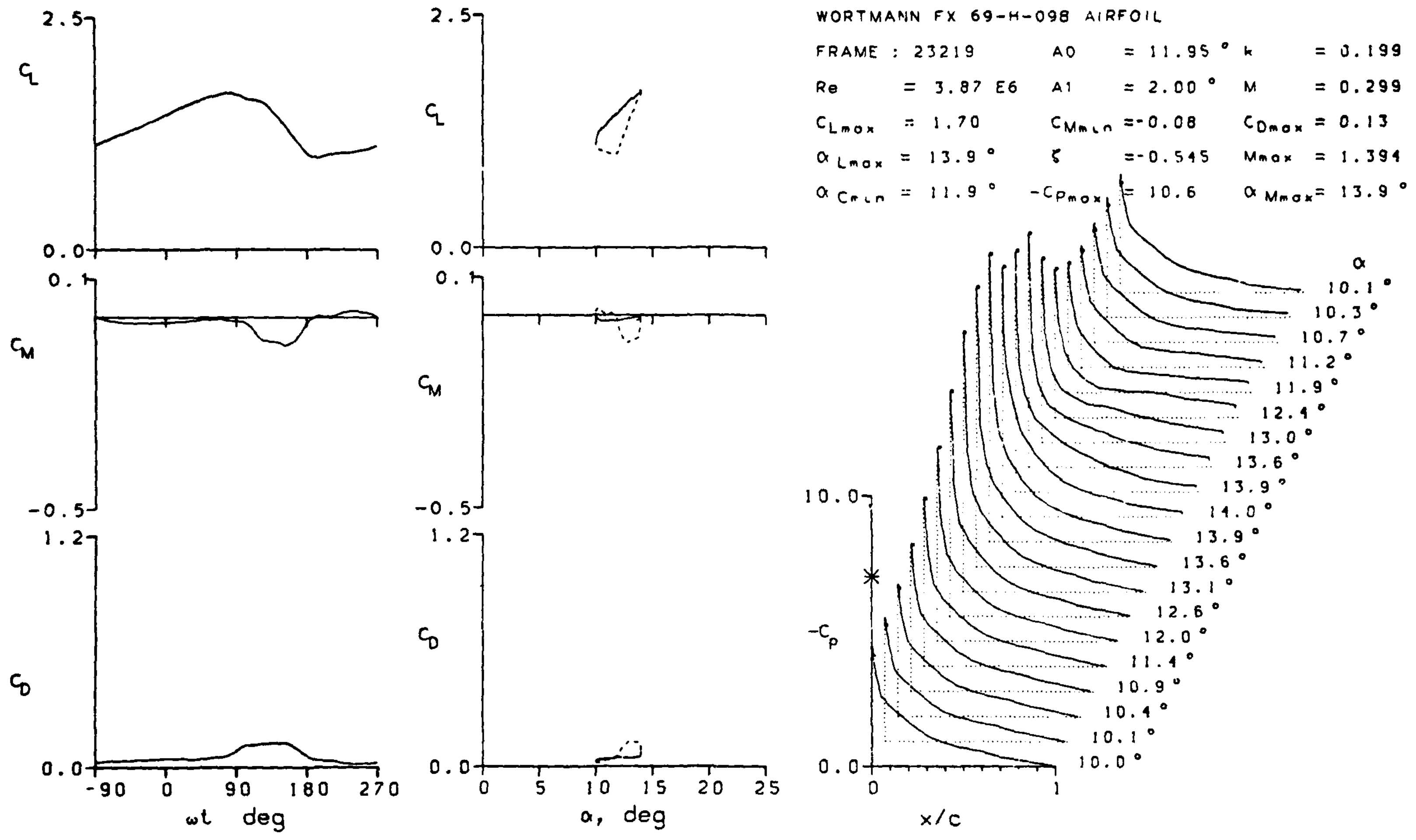

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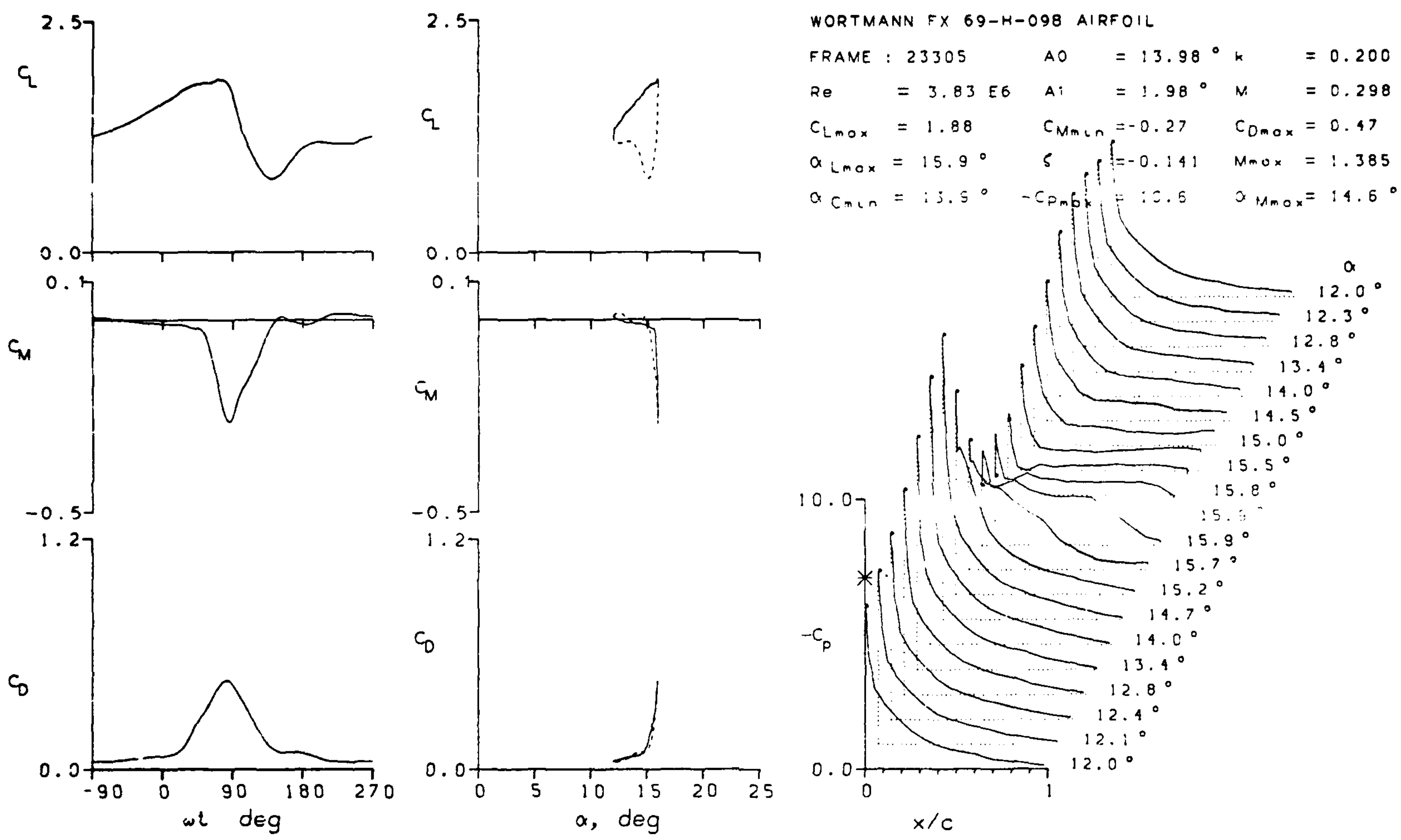

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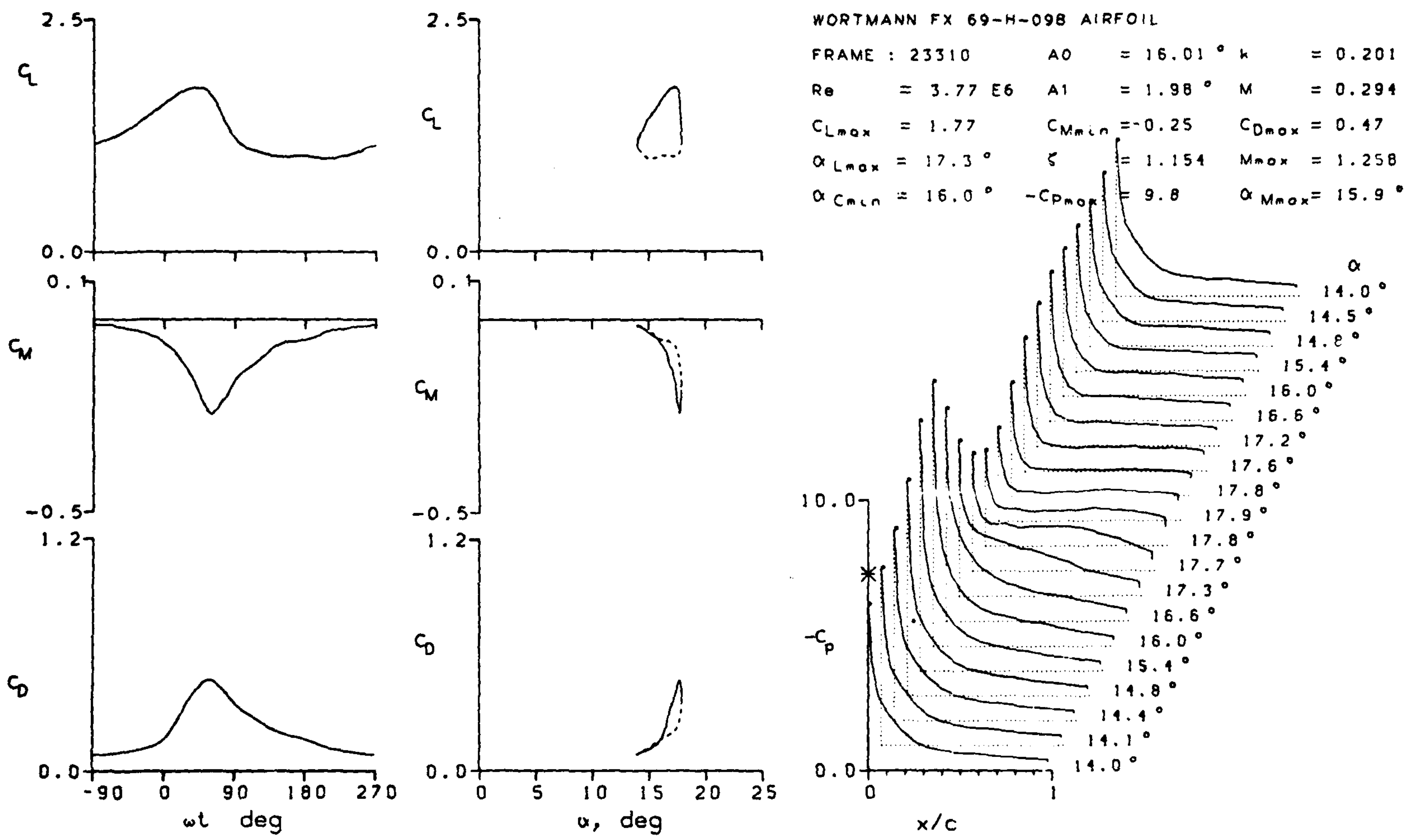

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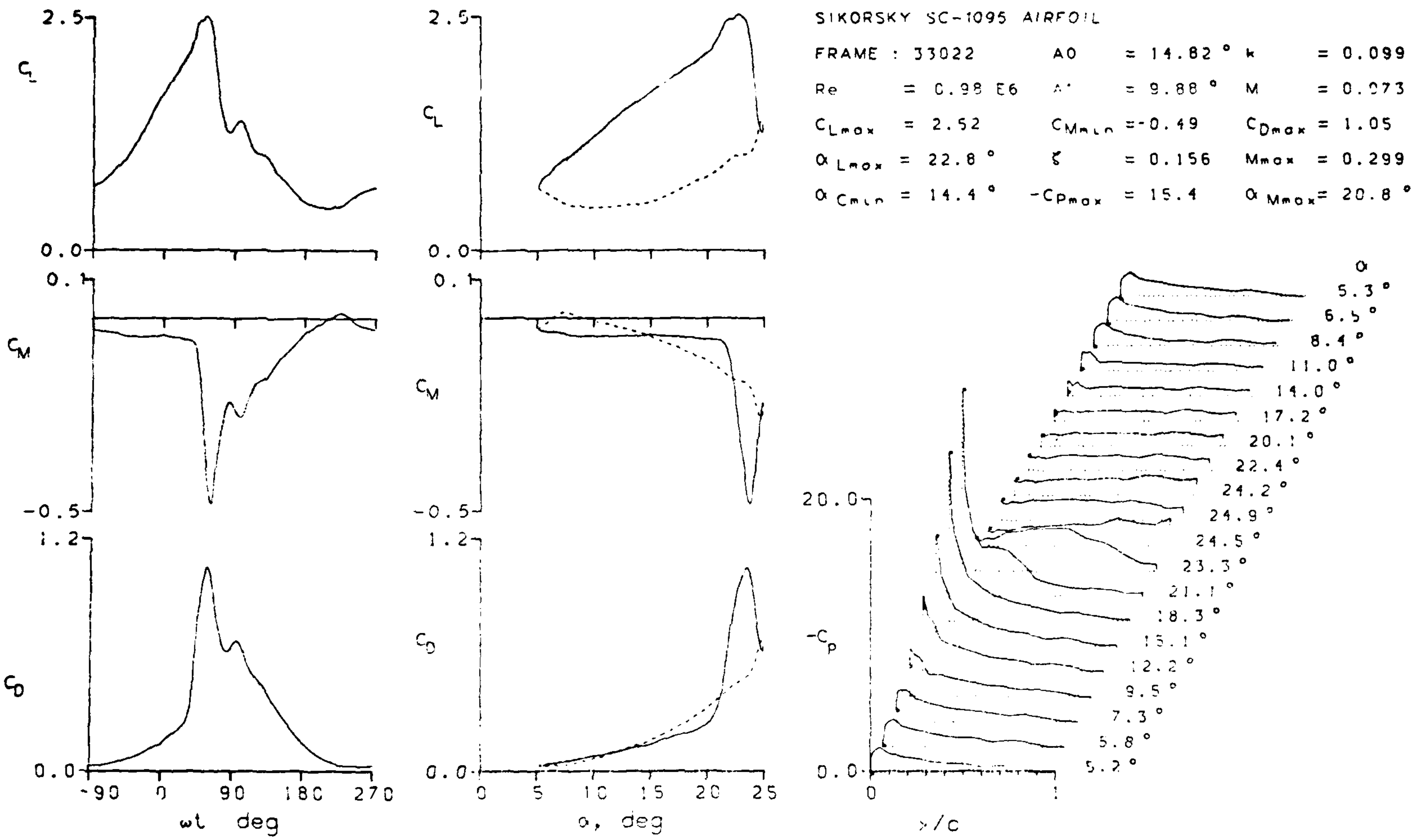
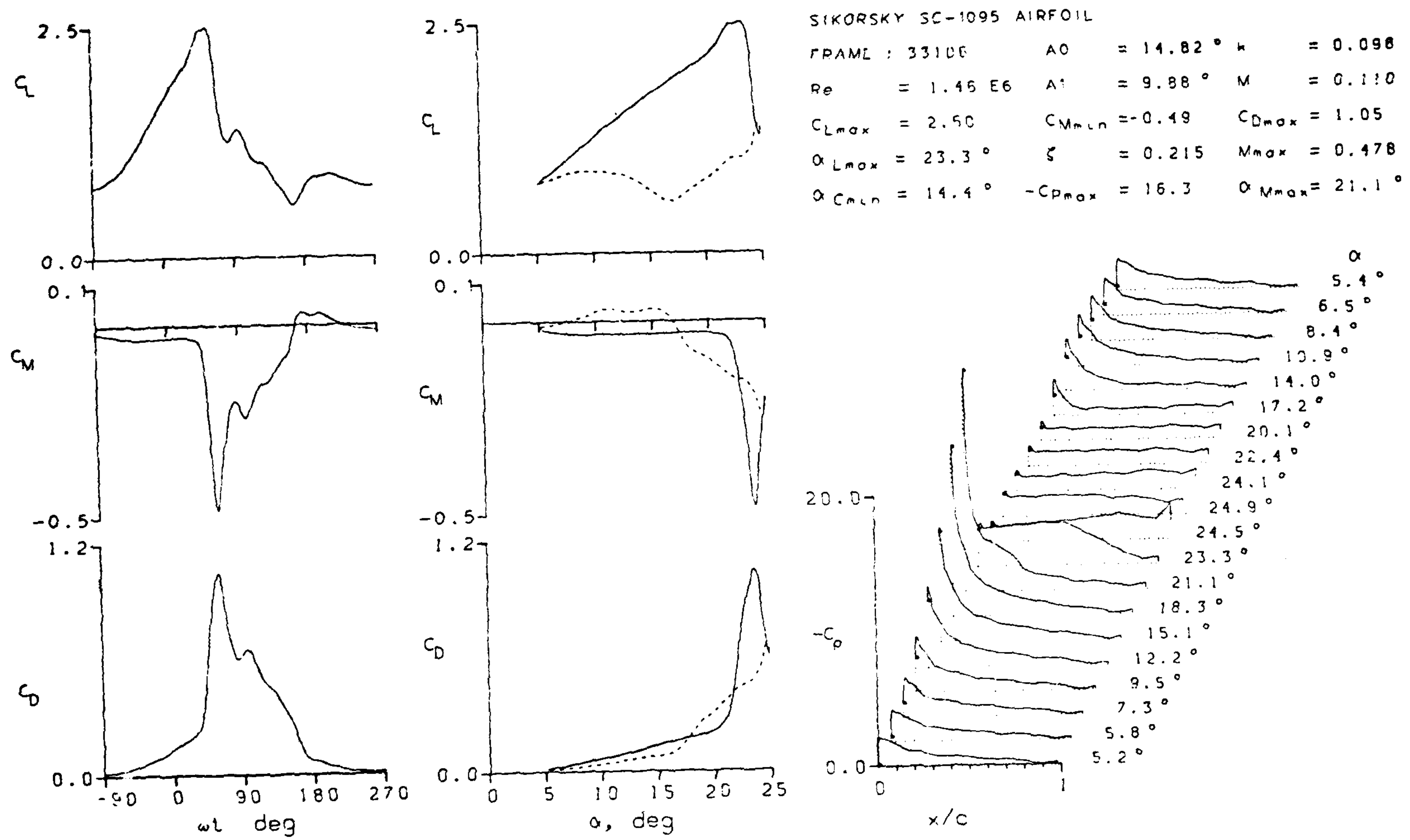


Figure 15.- Dynamic data for Sikorsky SC-1095 airfoil.



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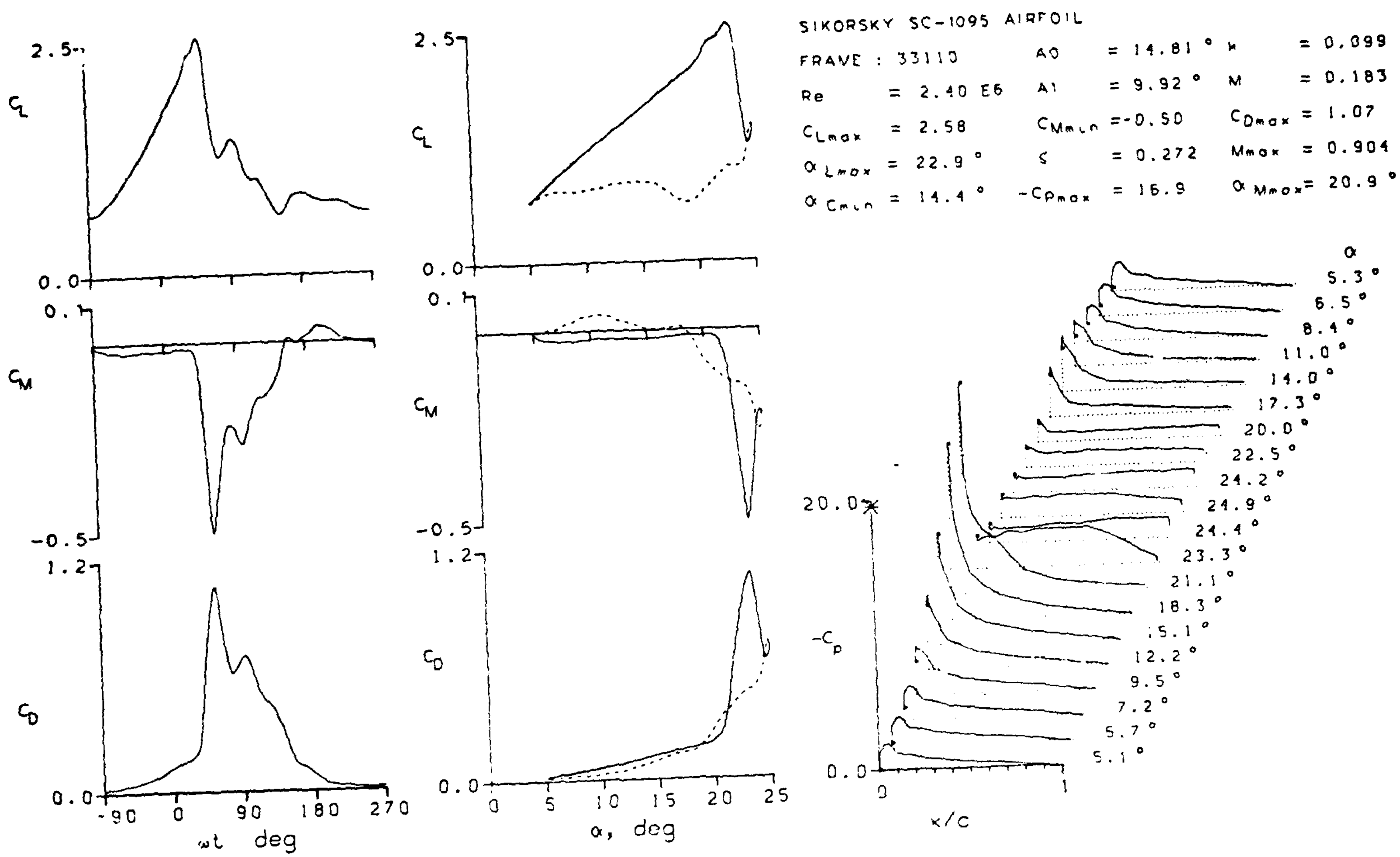

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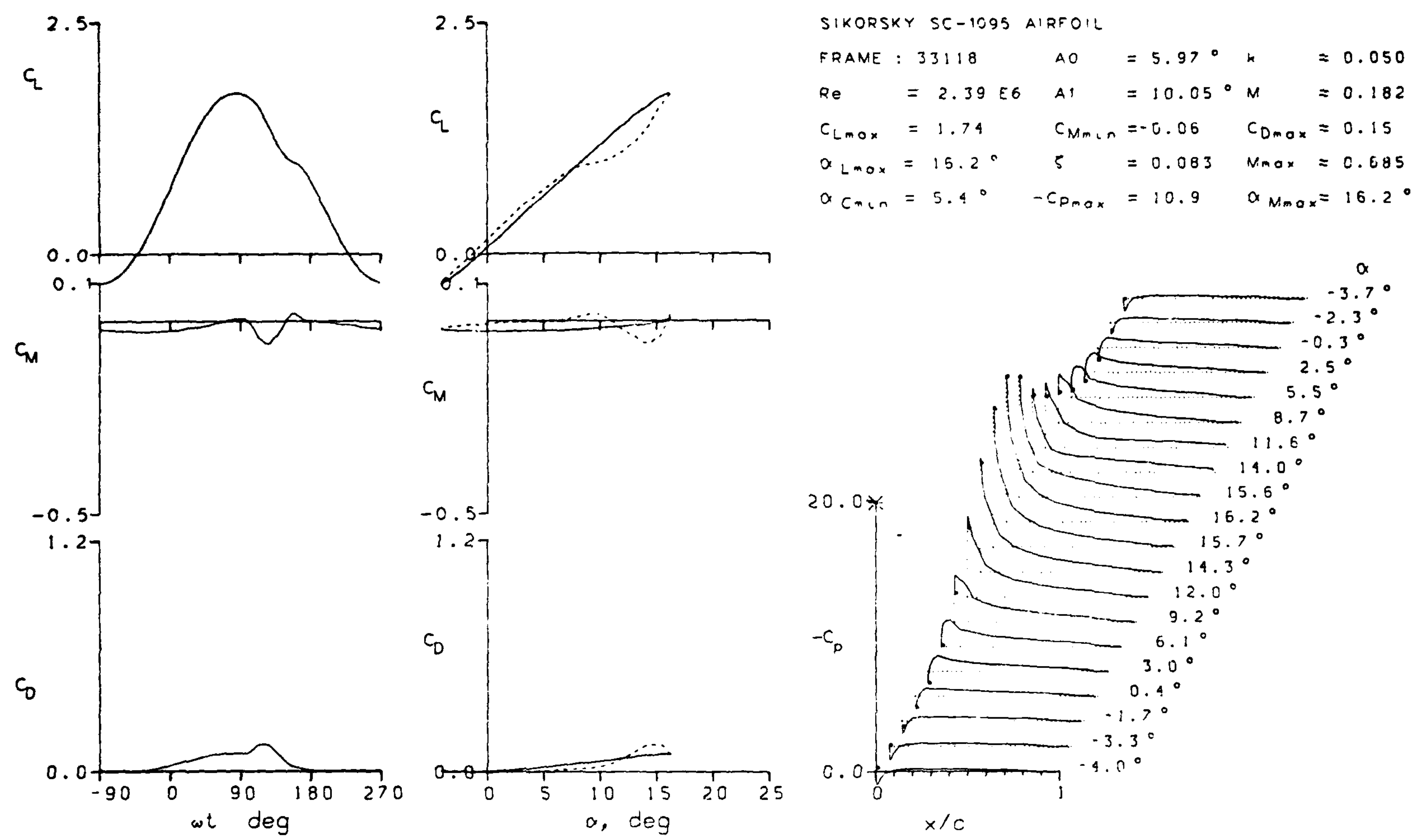

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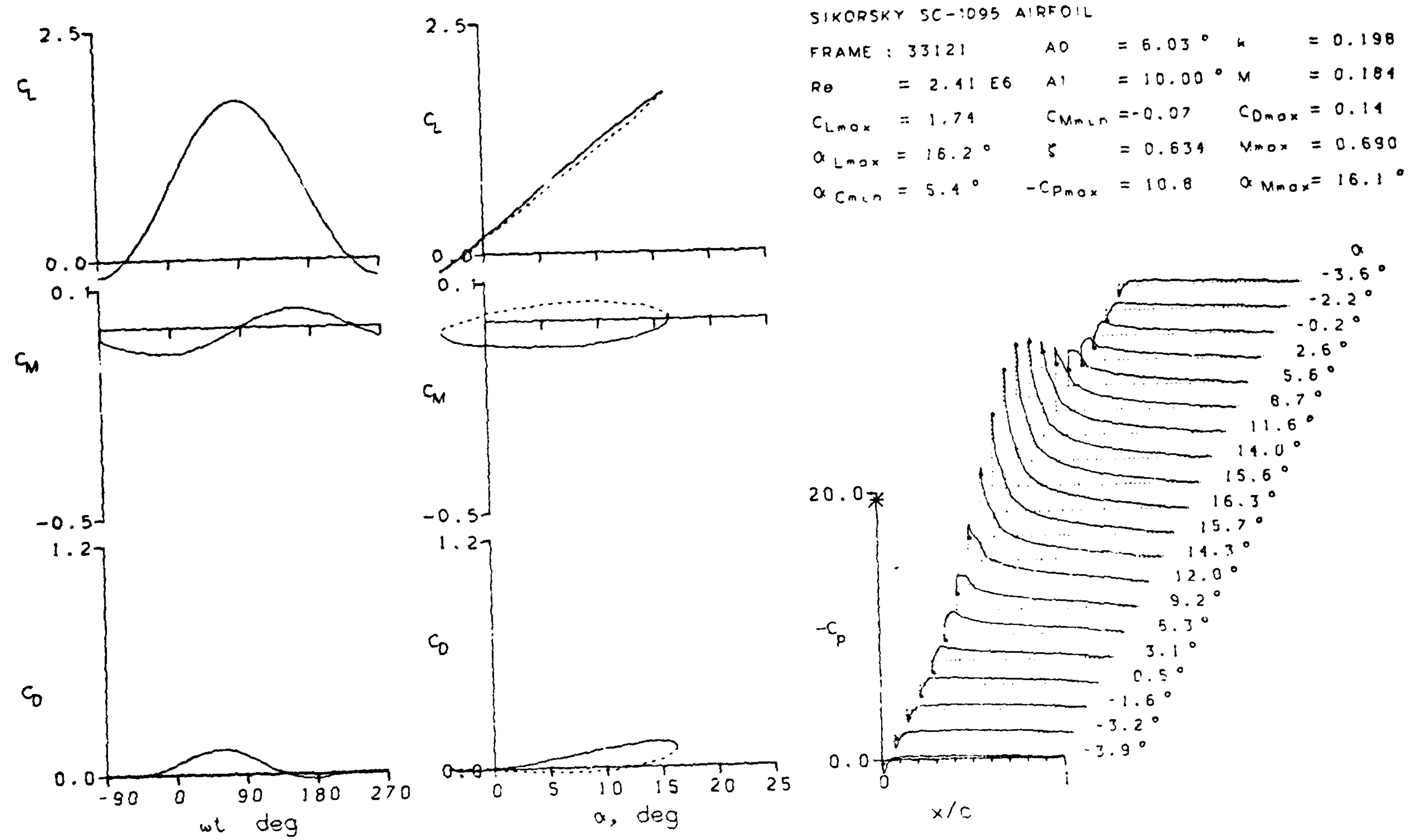

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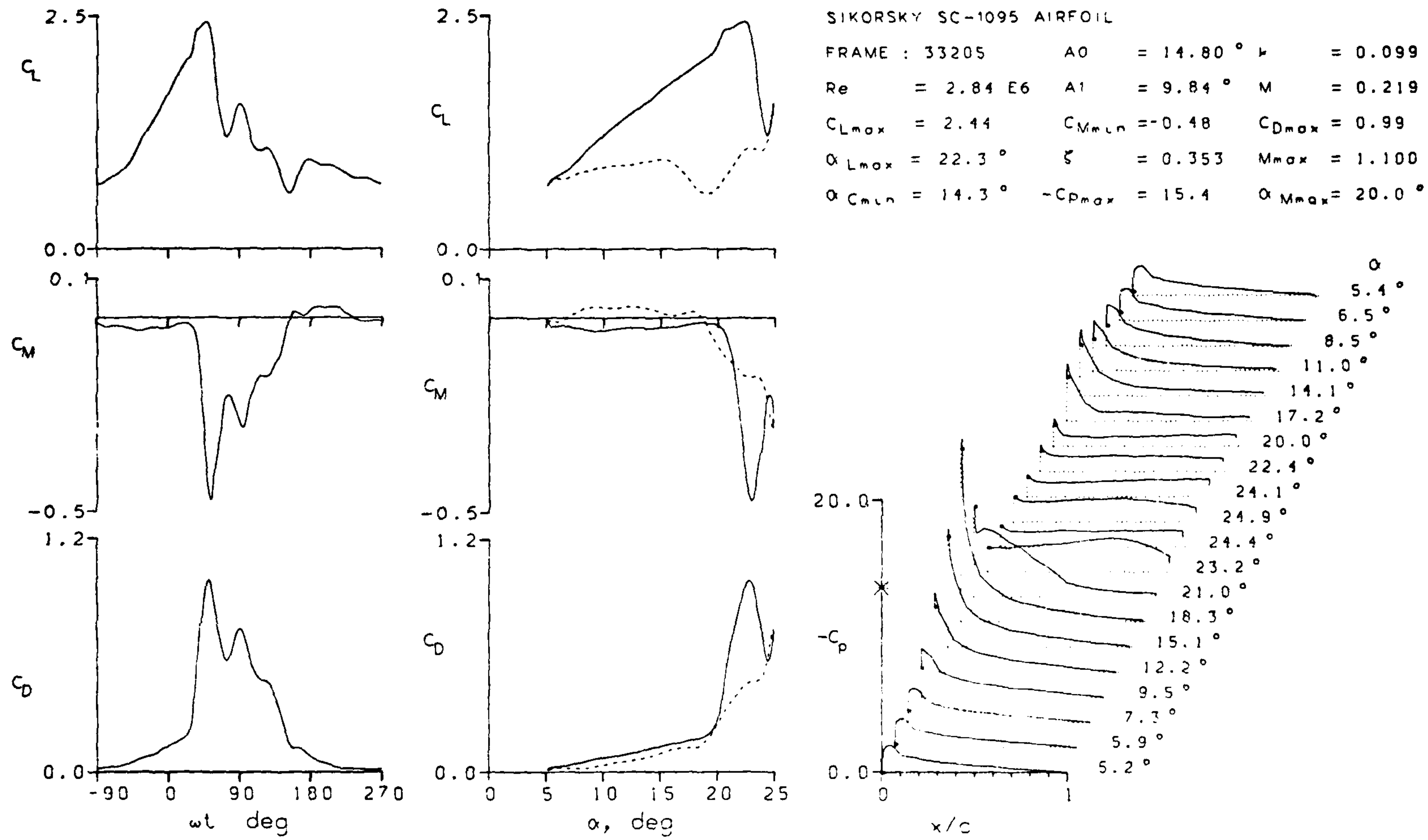

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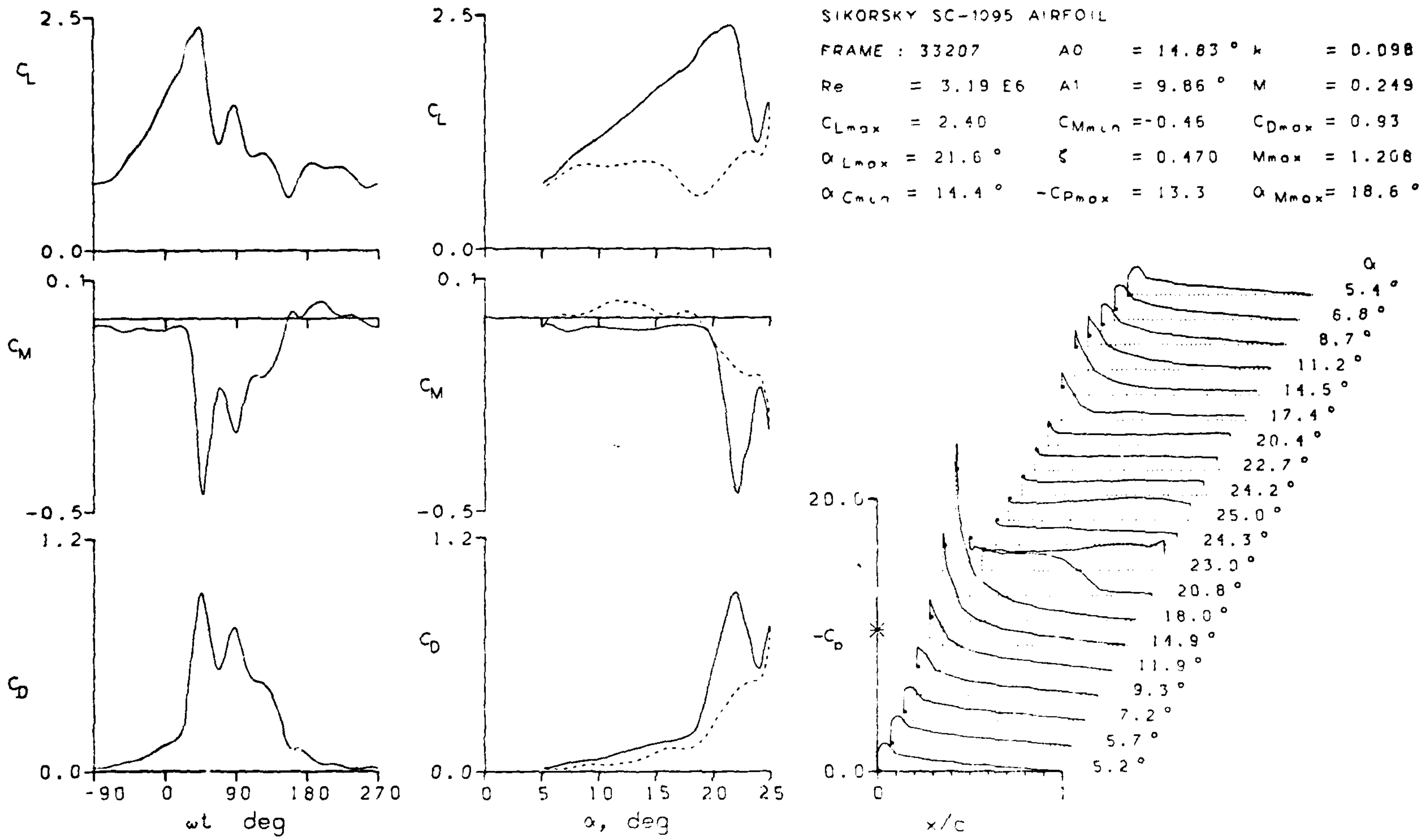

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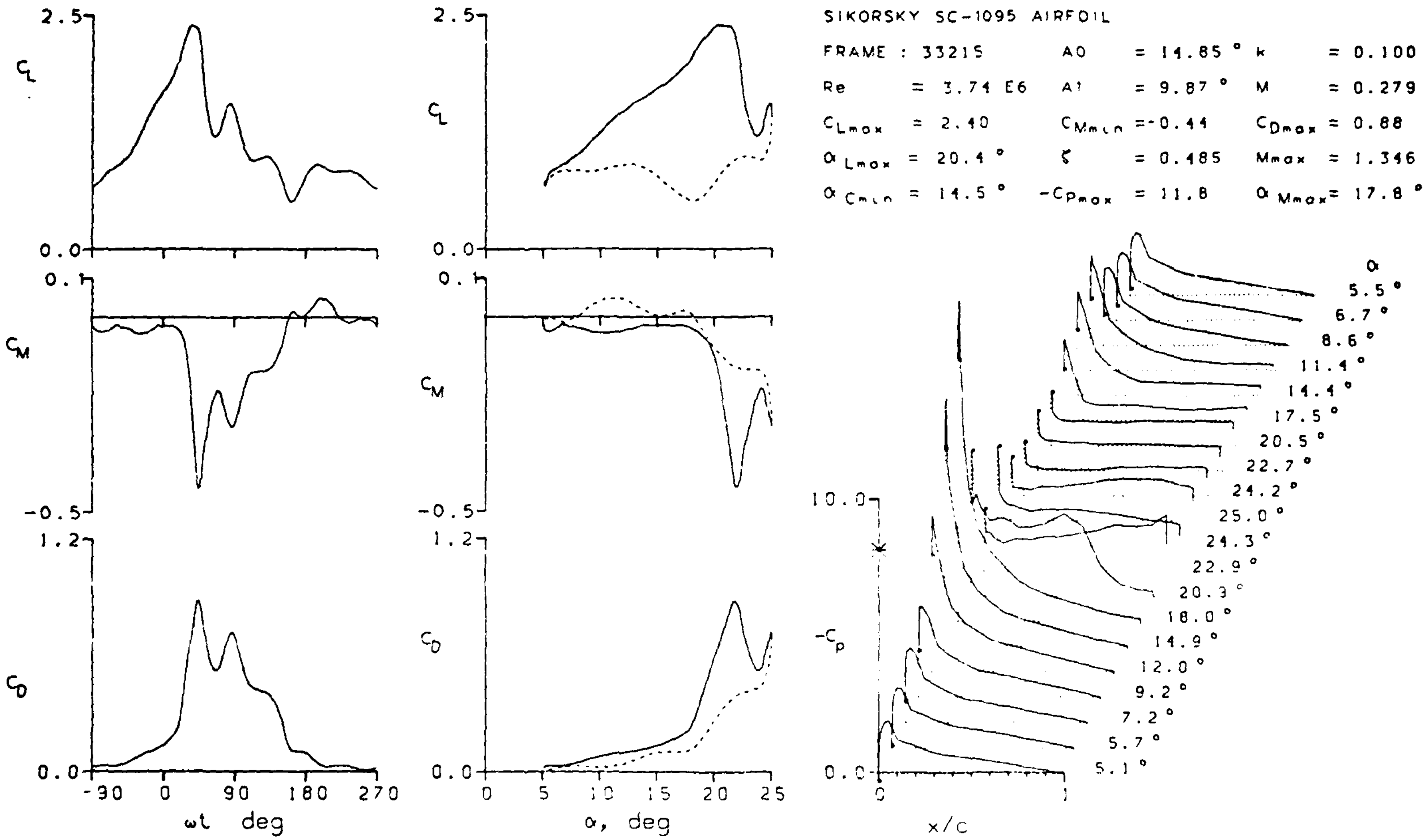

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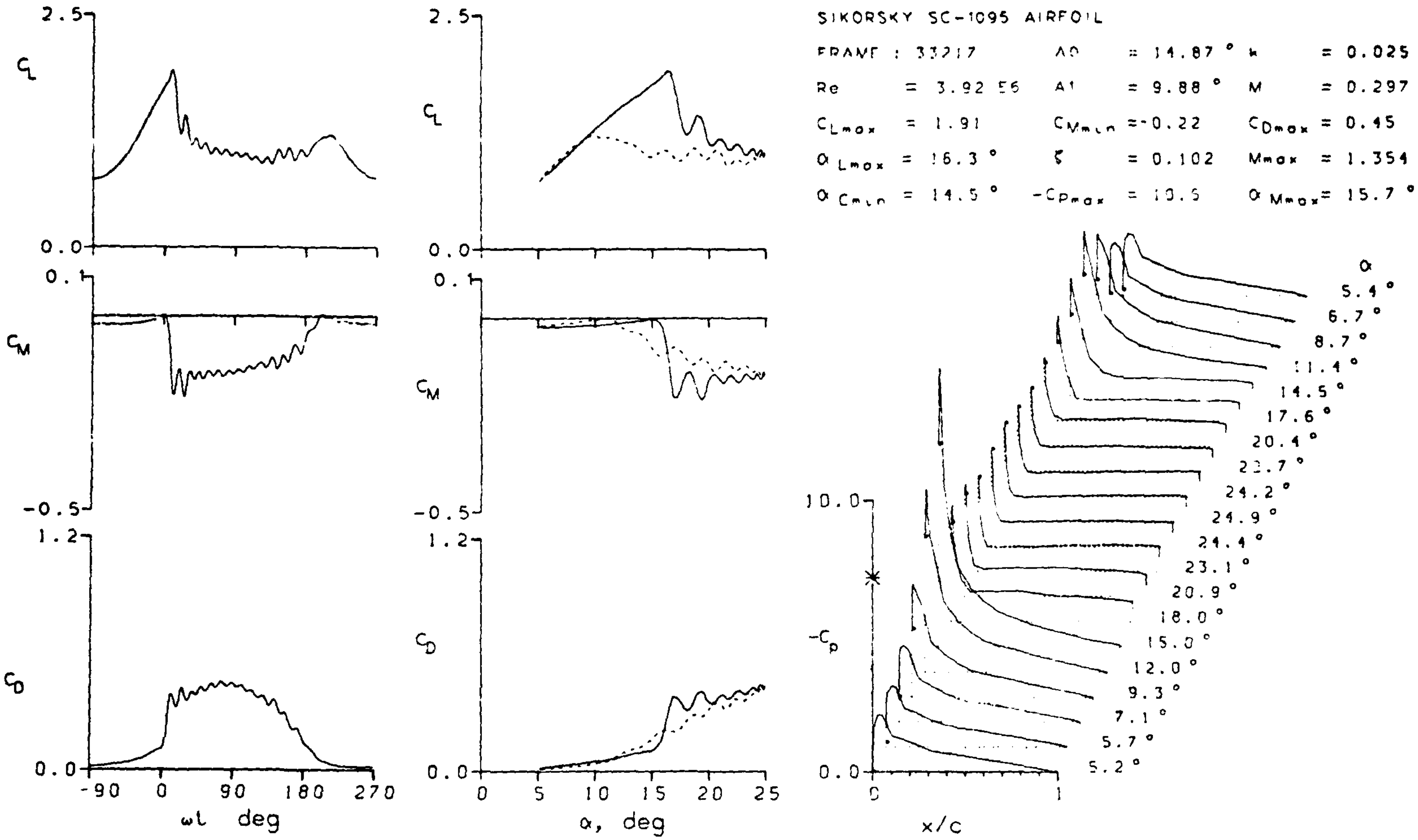

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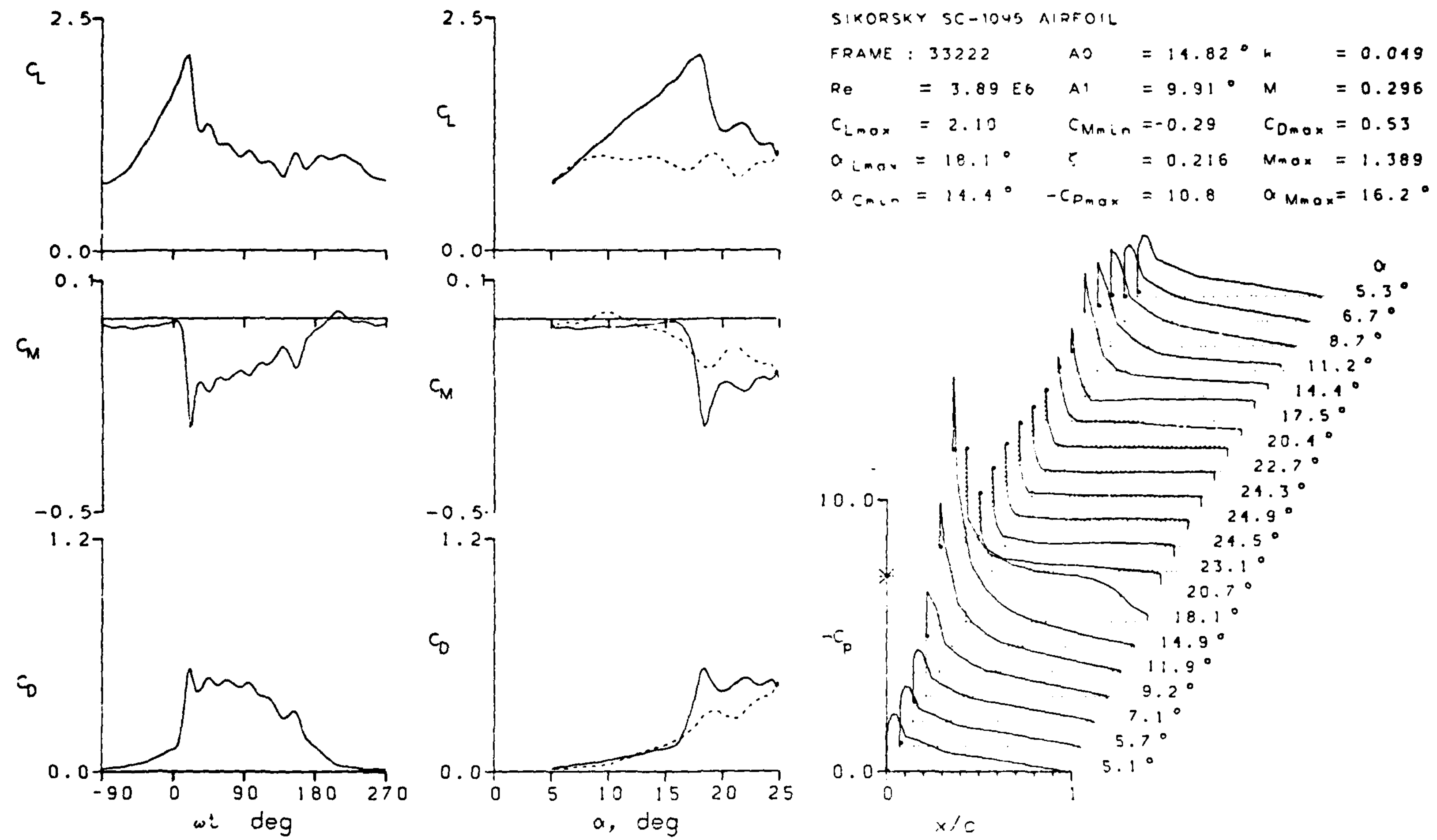

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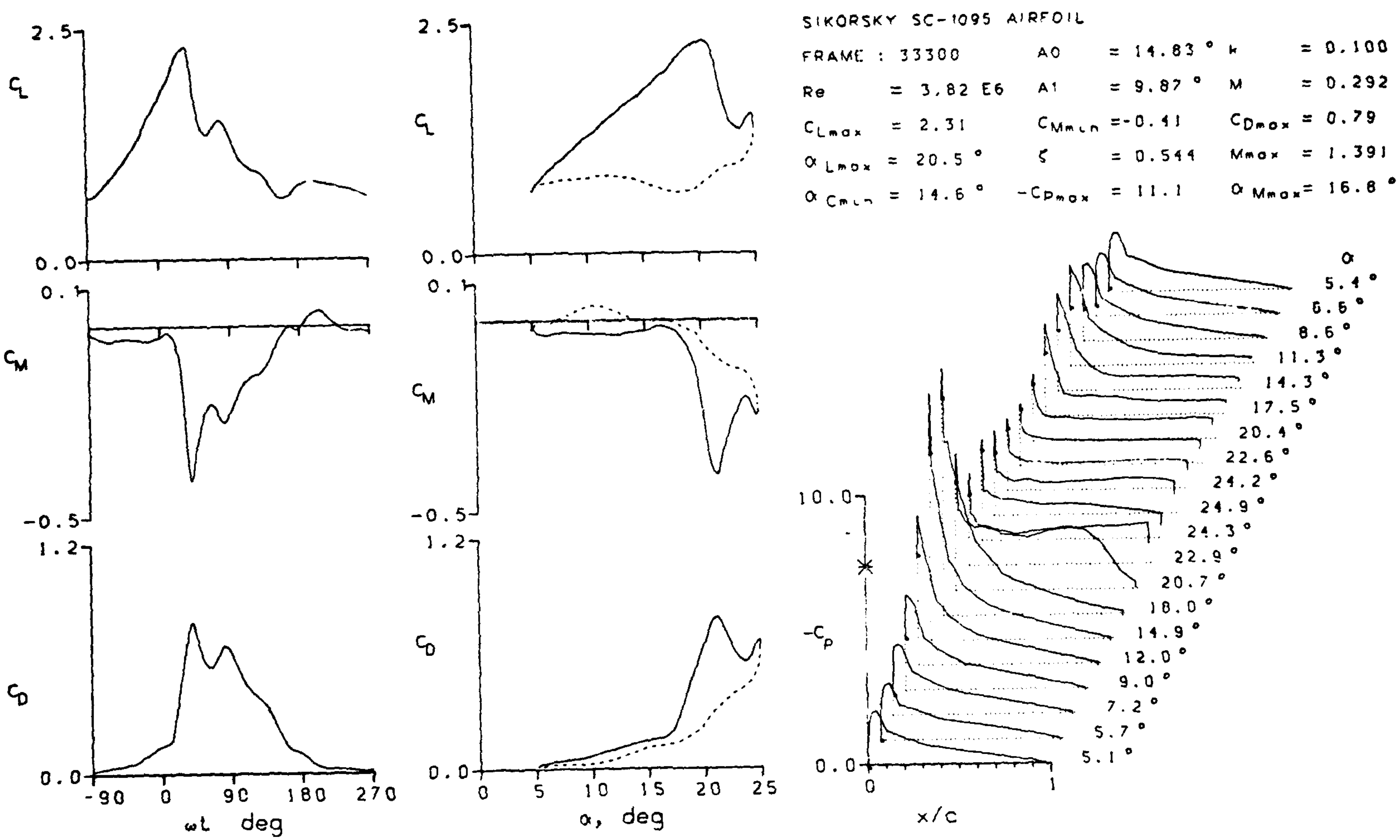

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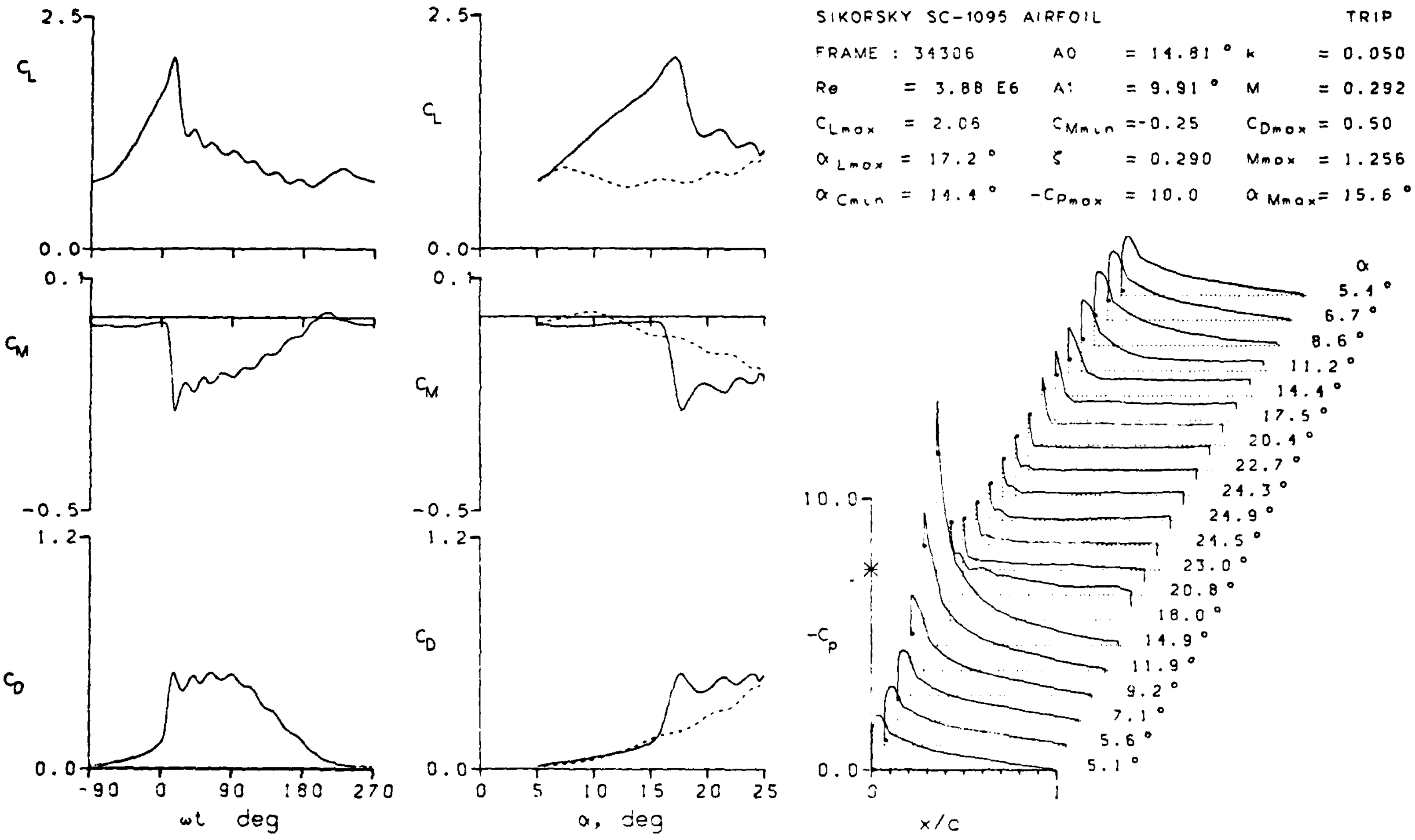

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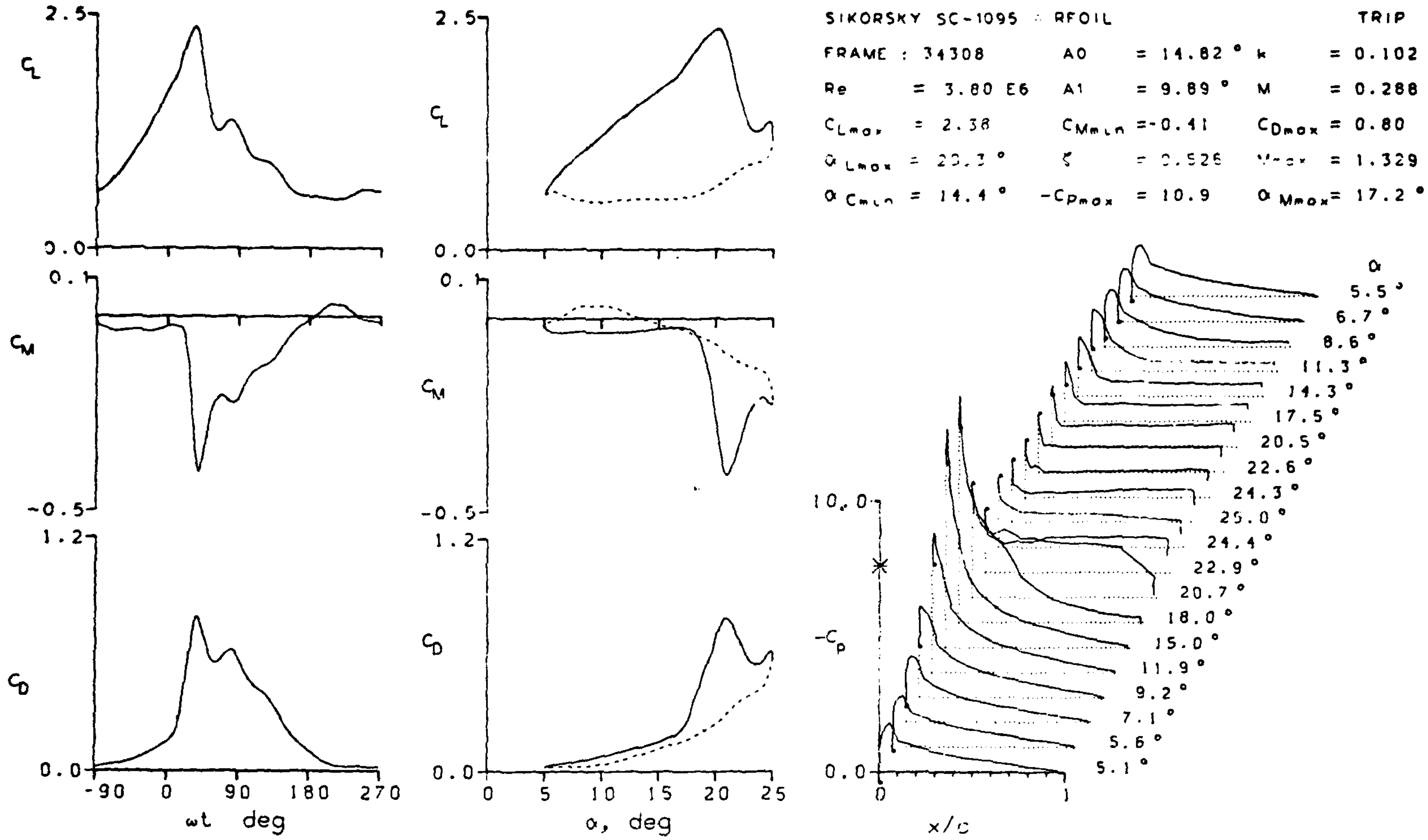

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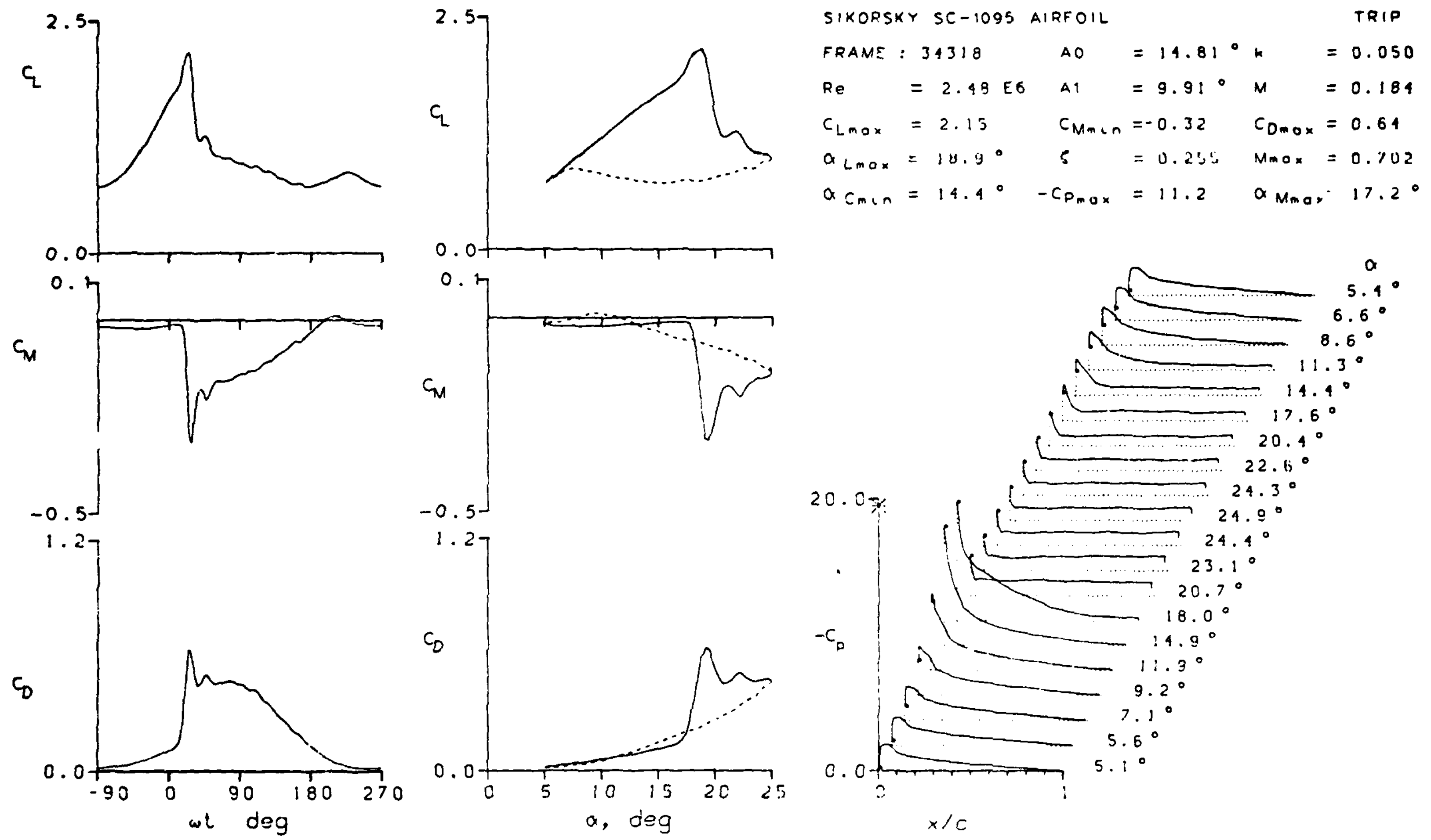

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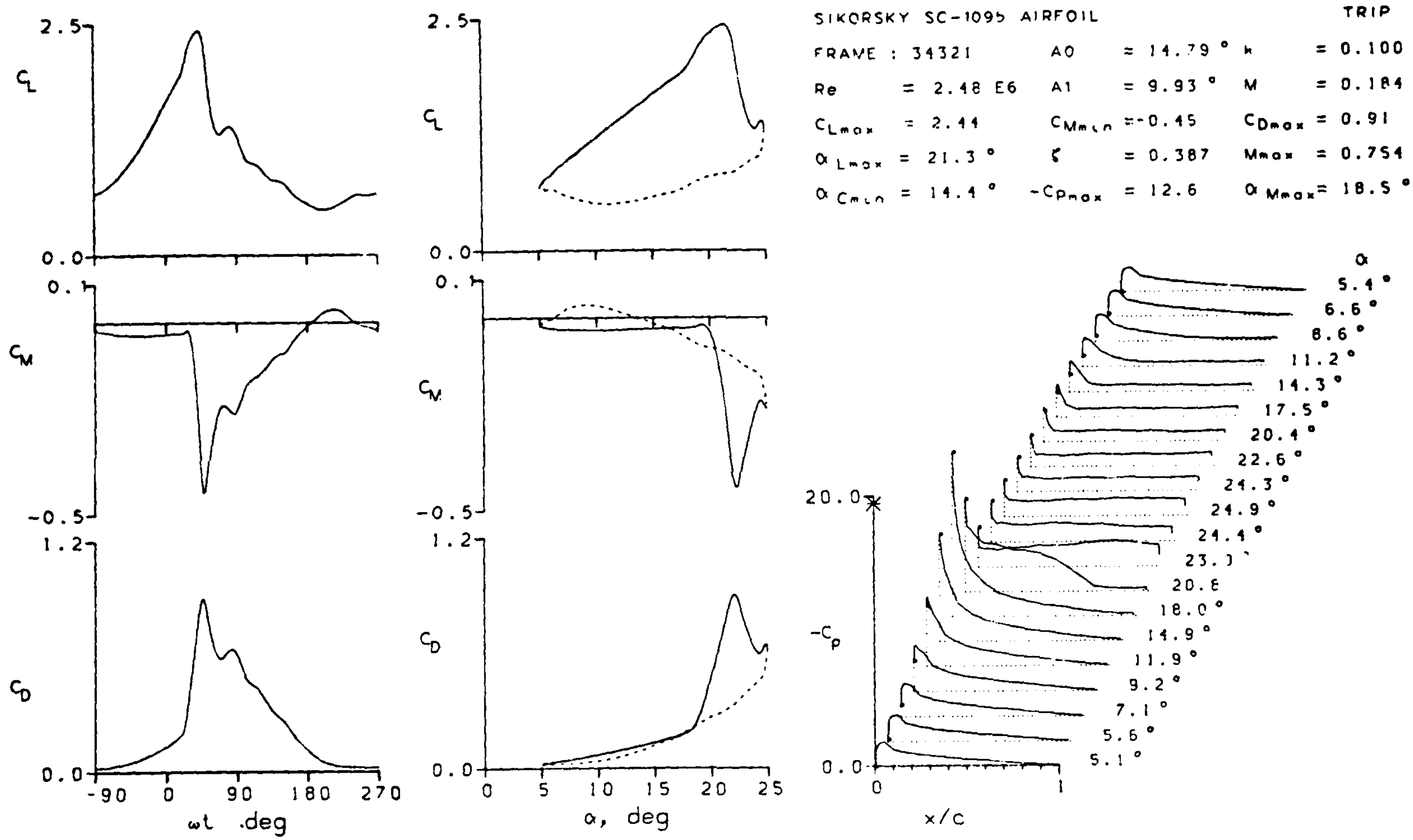

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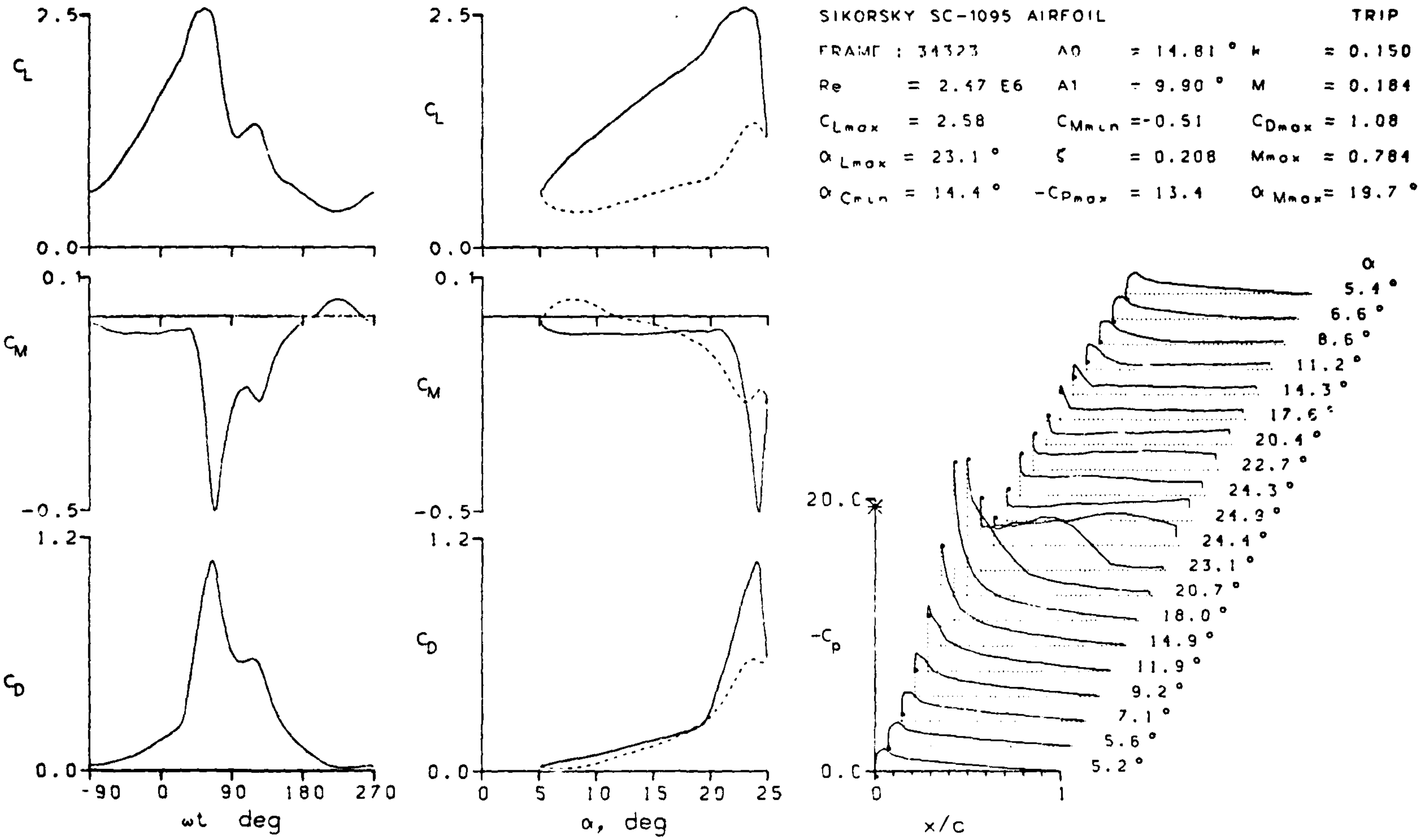

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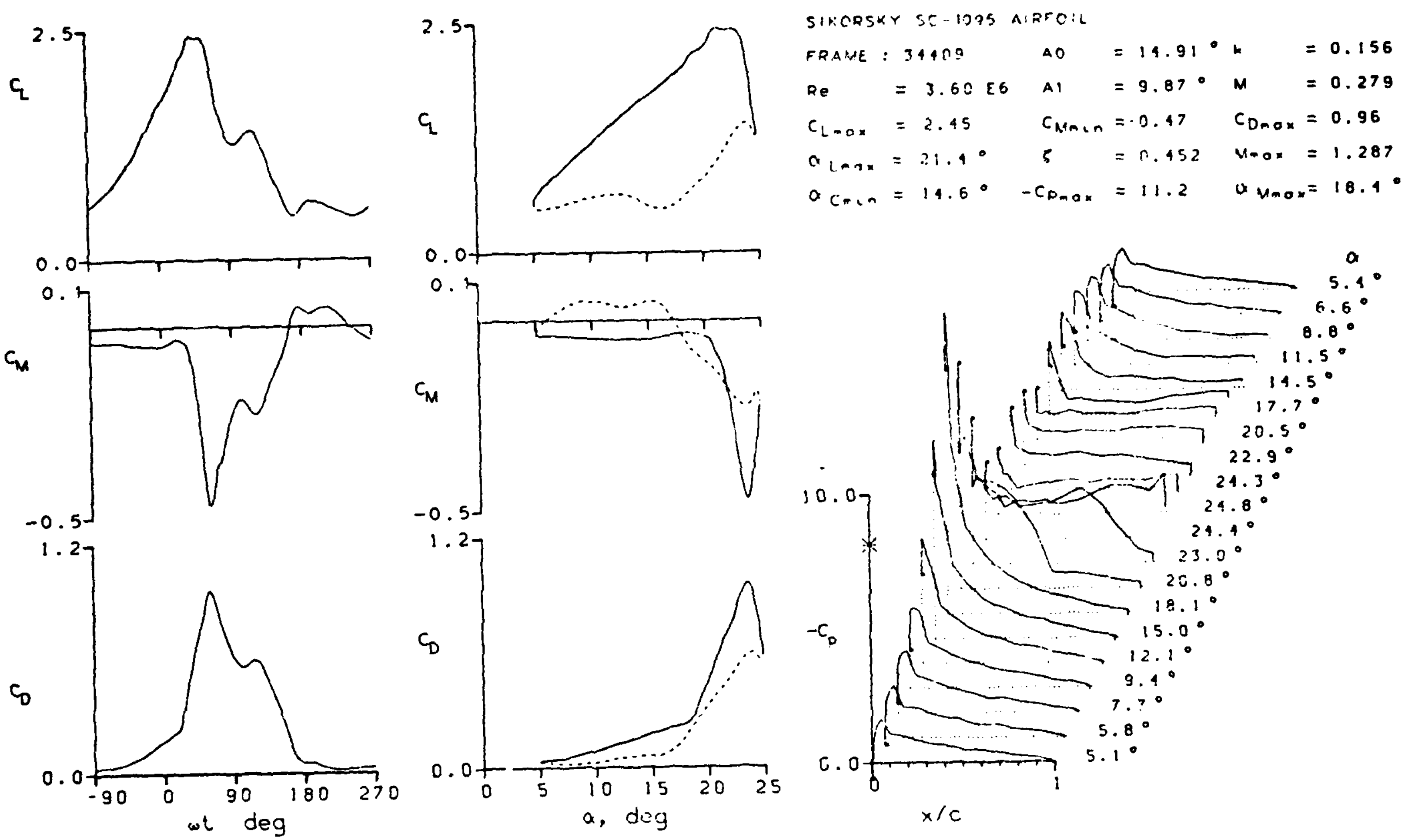

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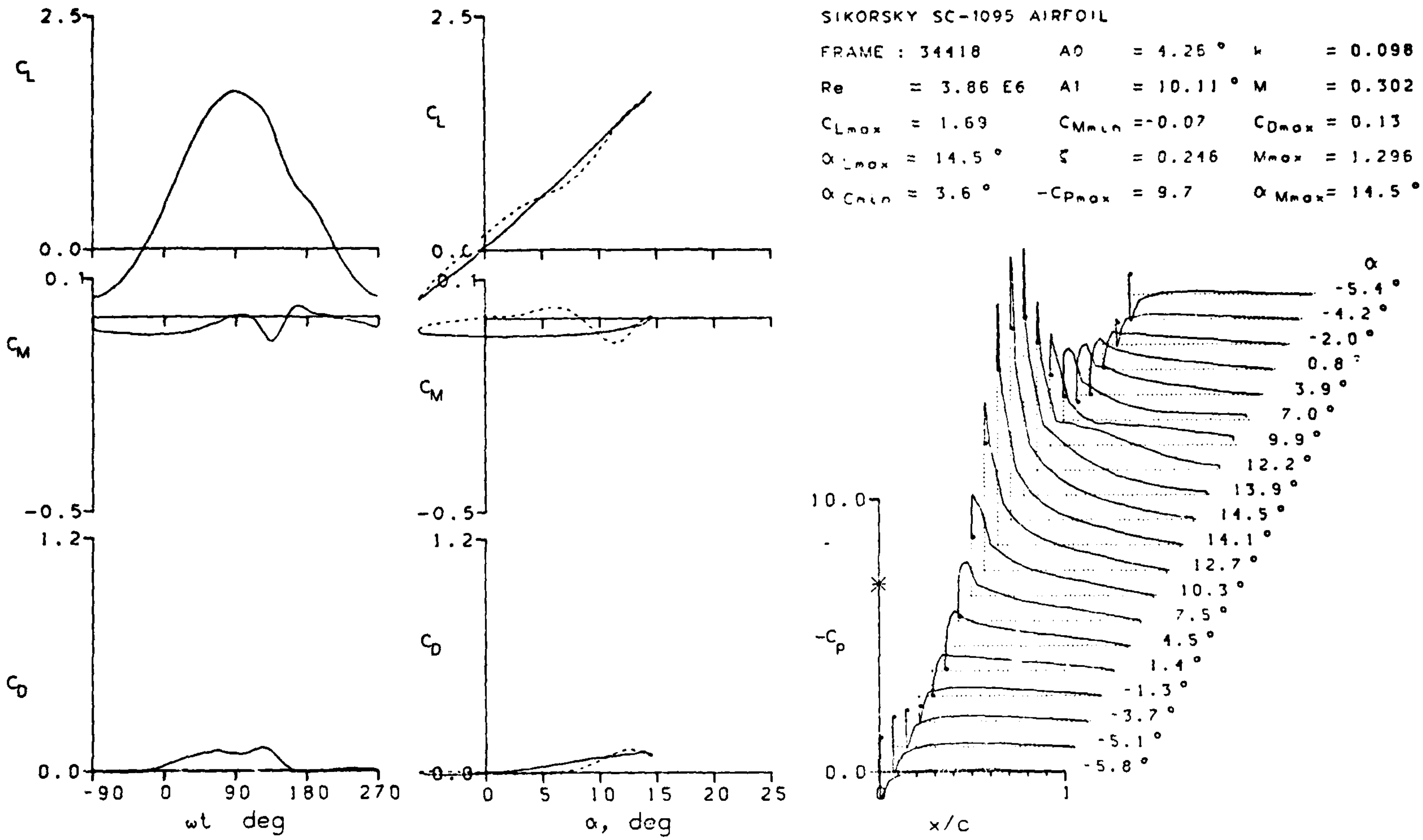

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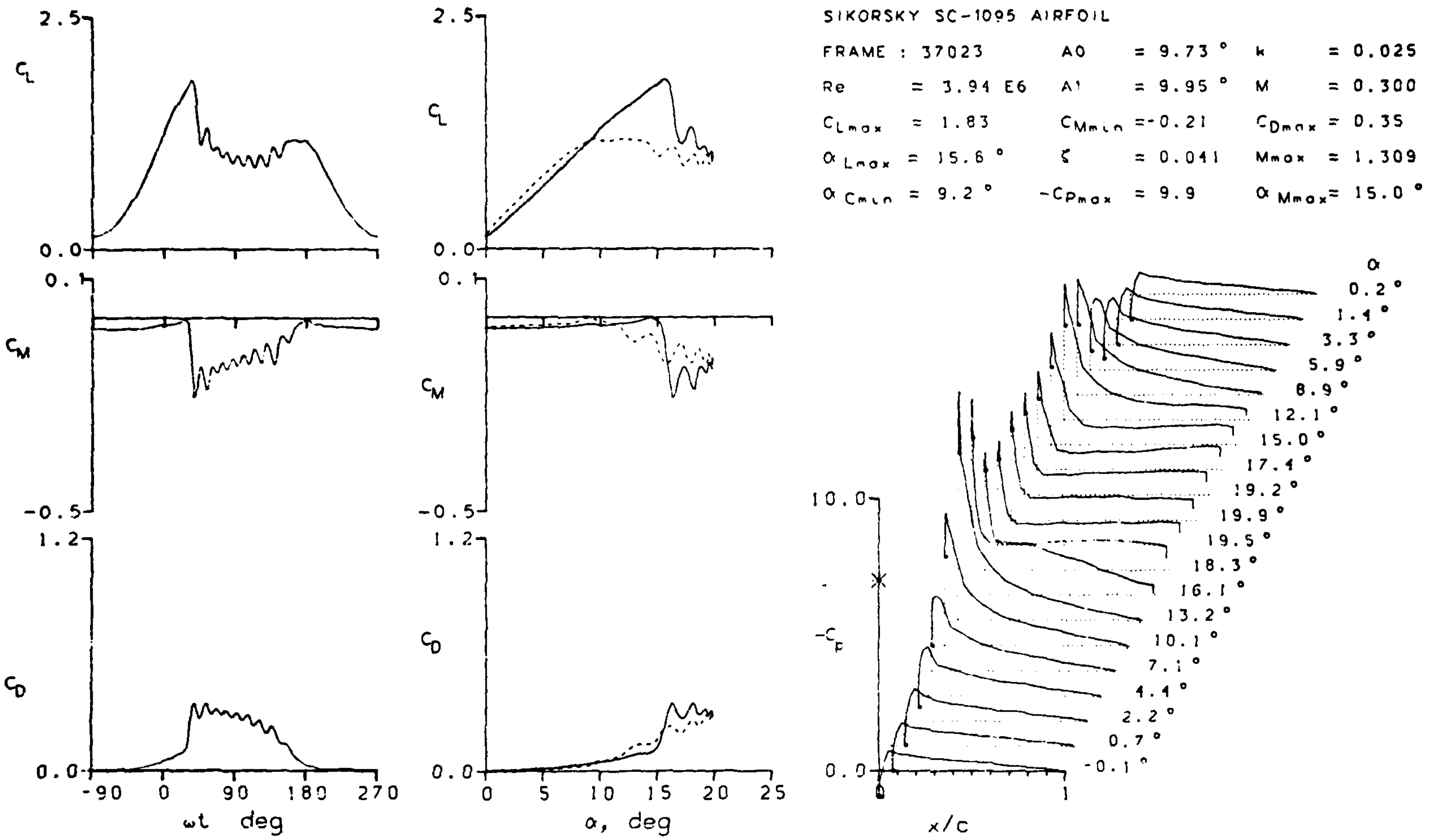

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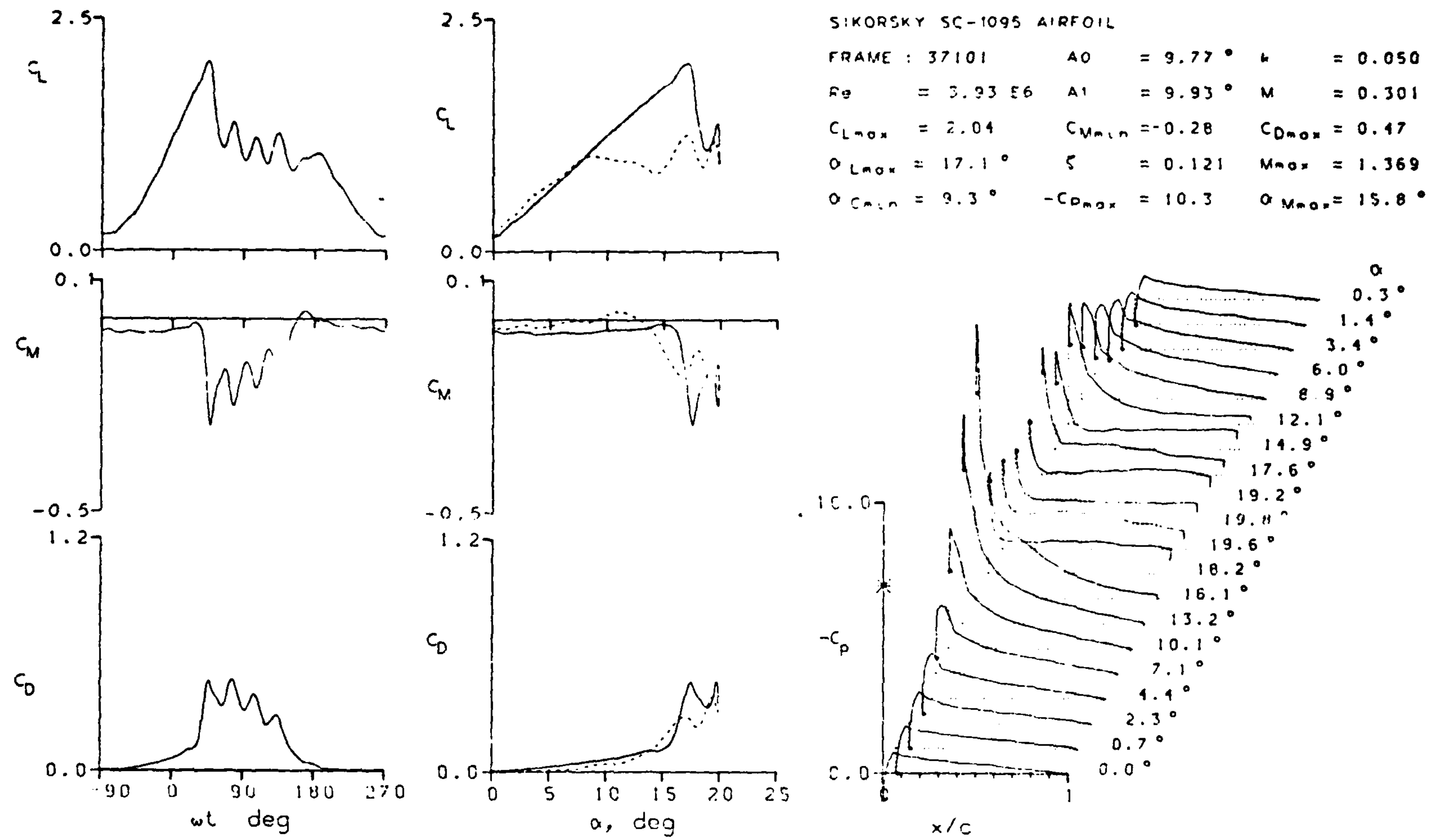

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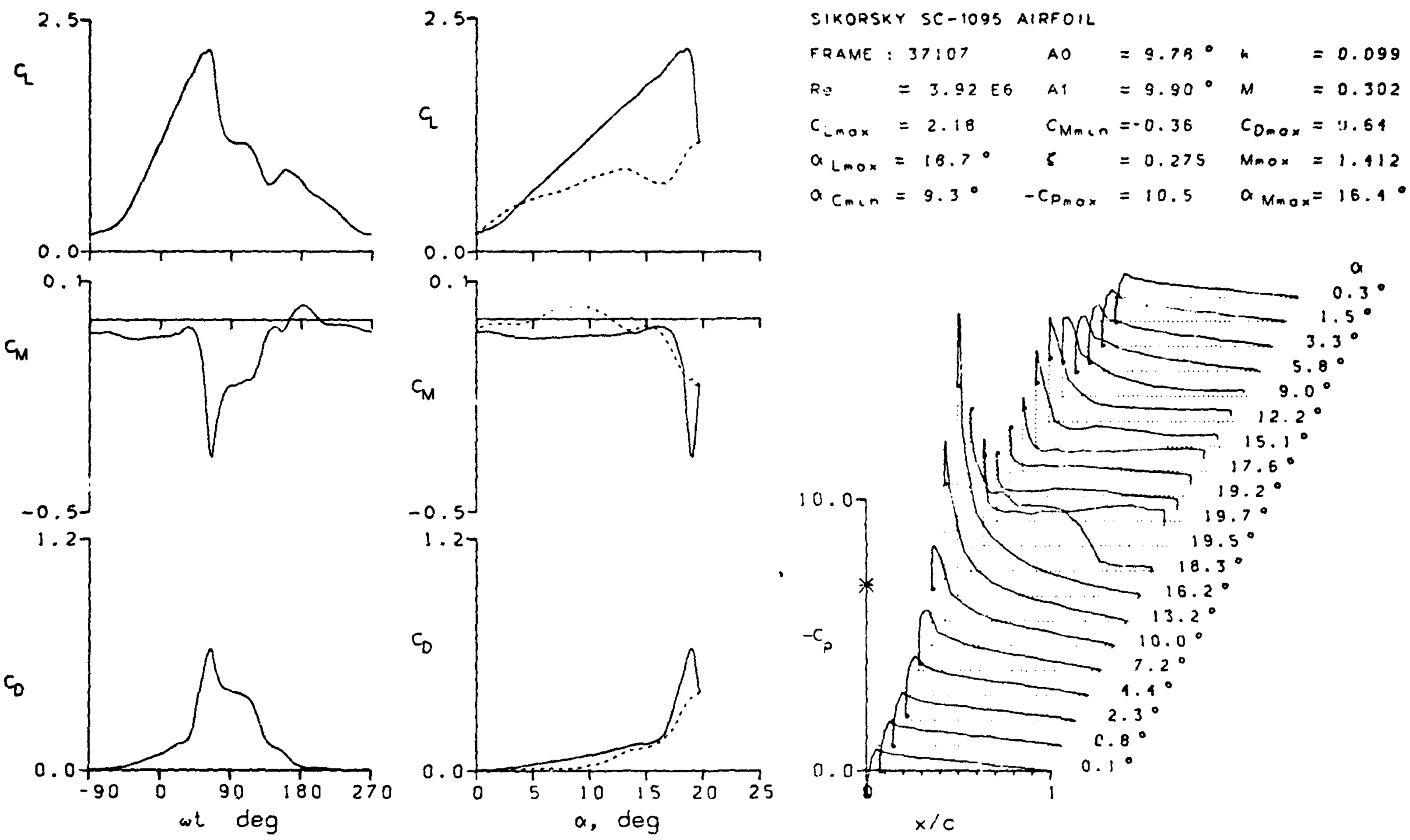

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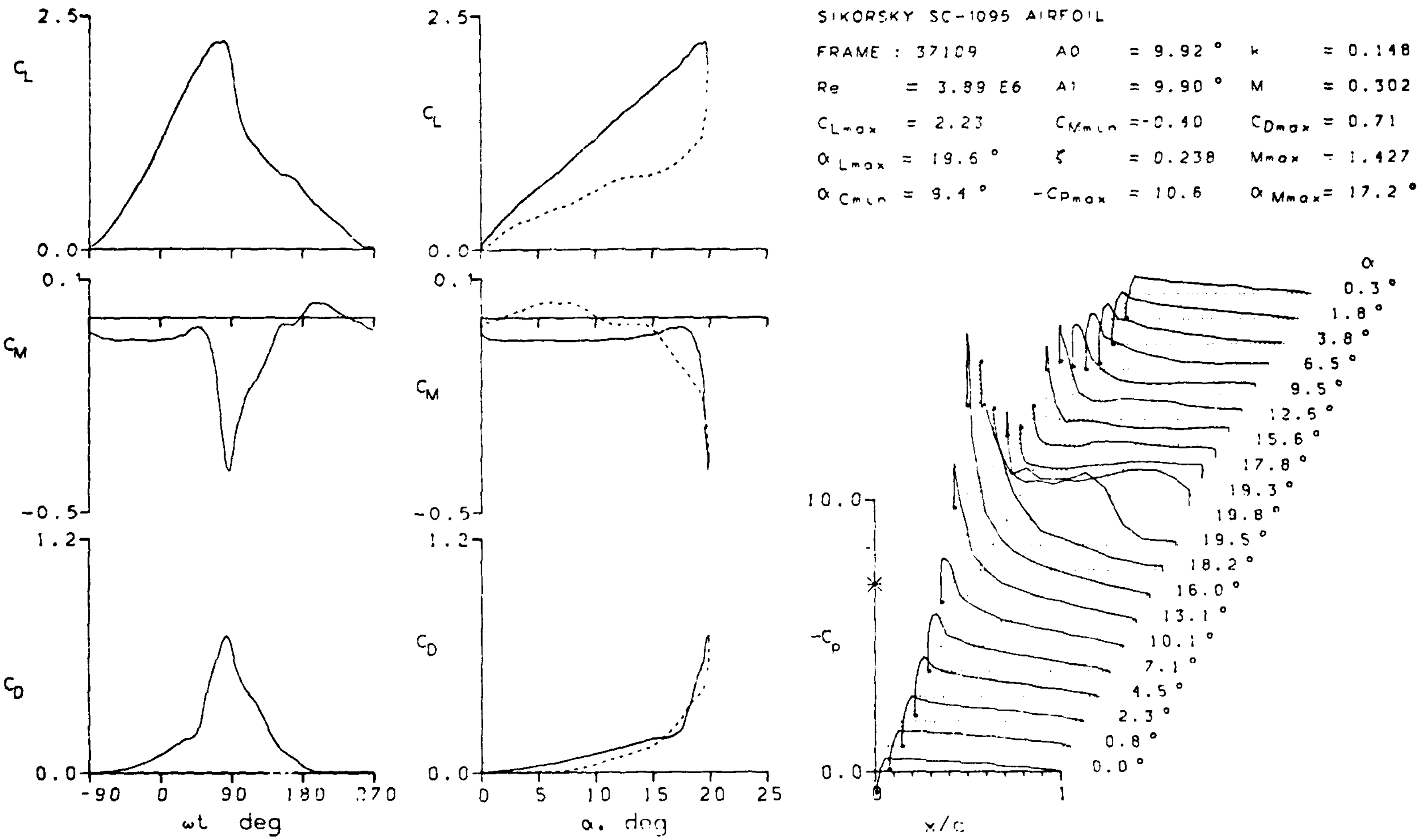

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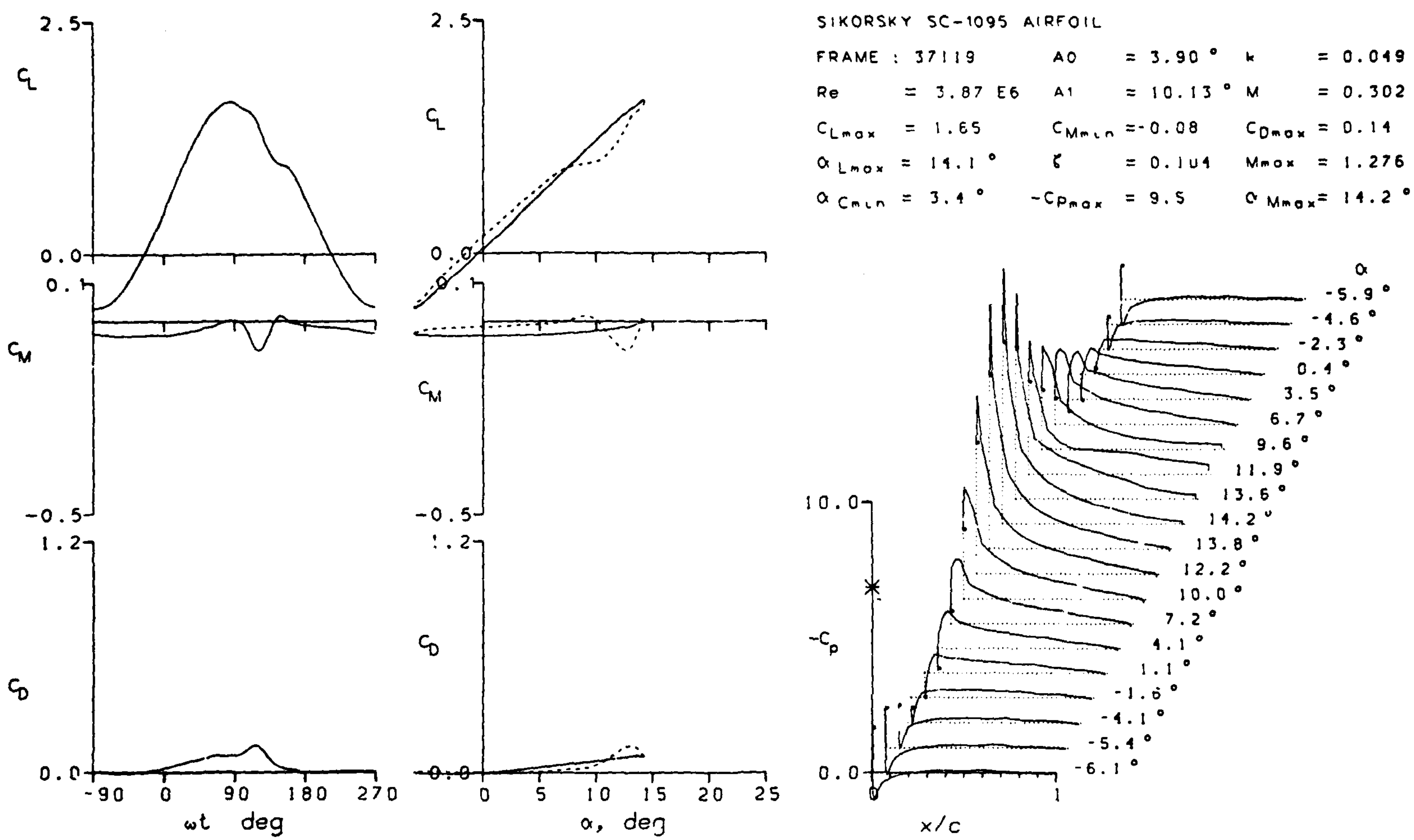

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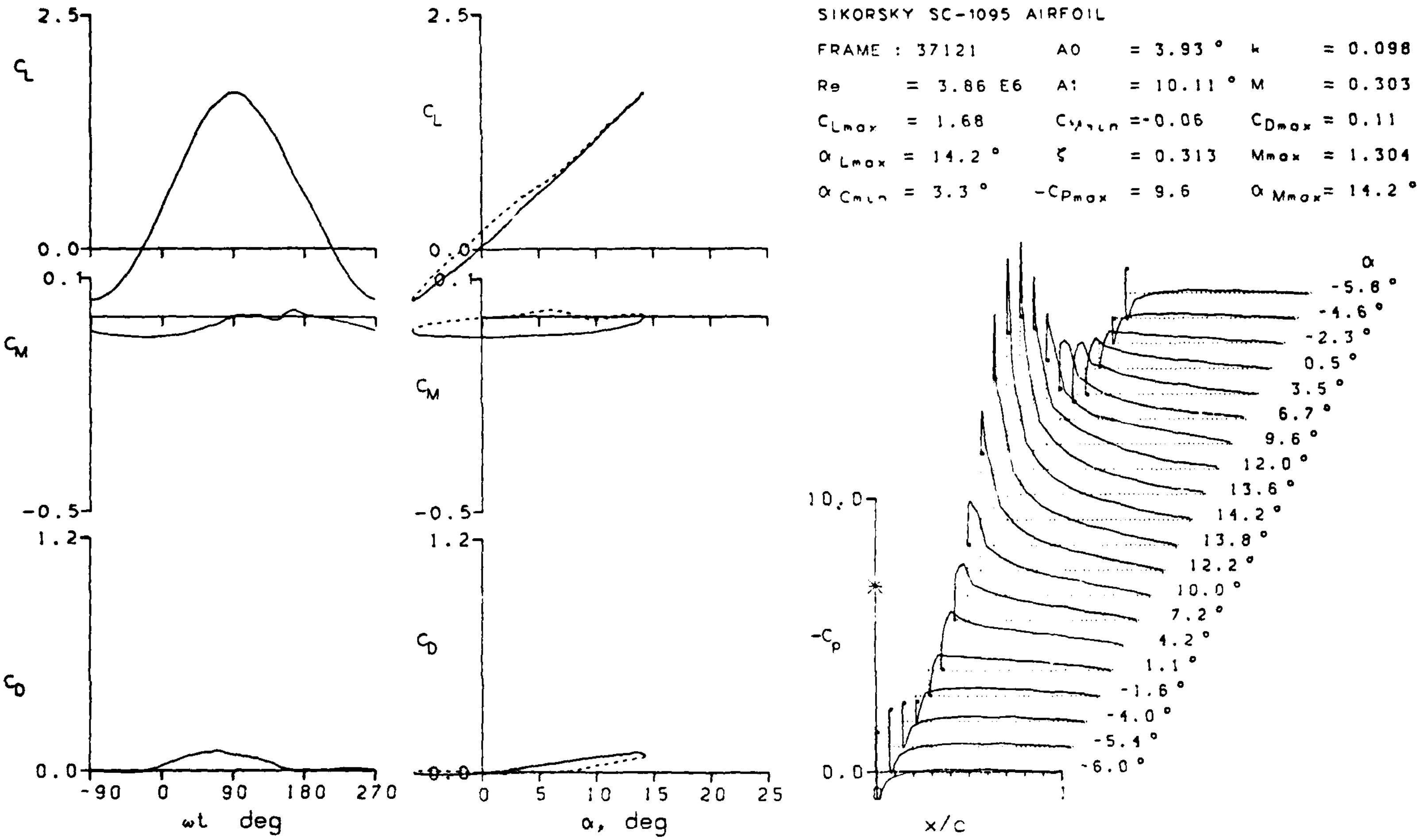

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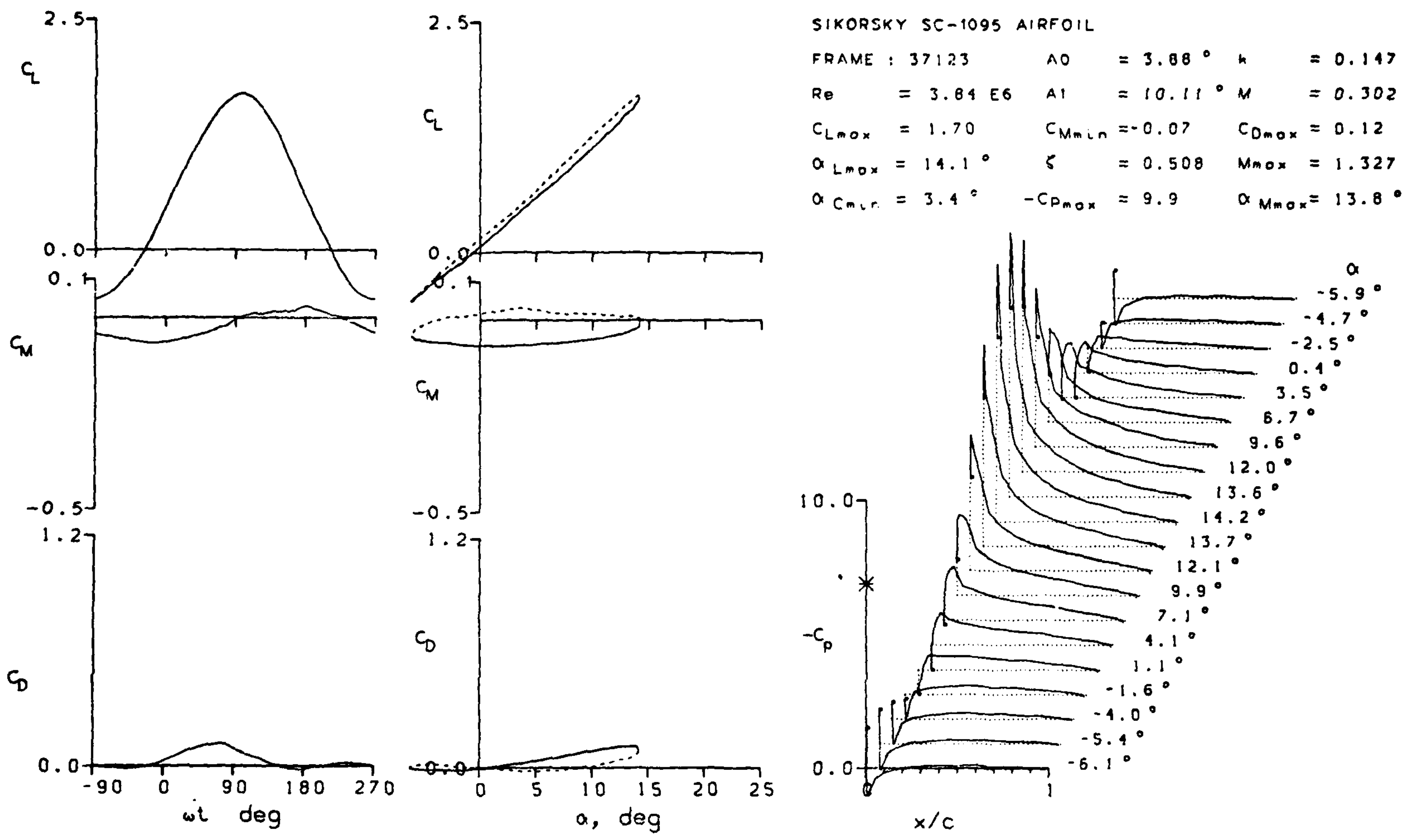

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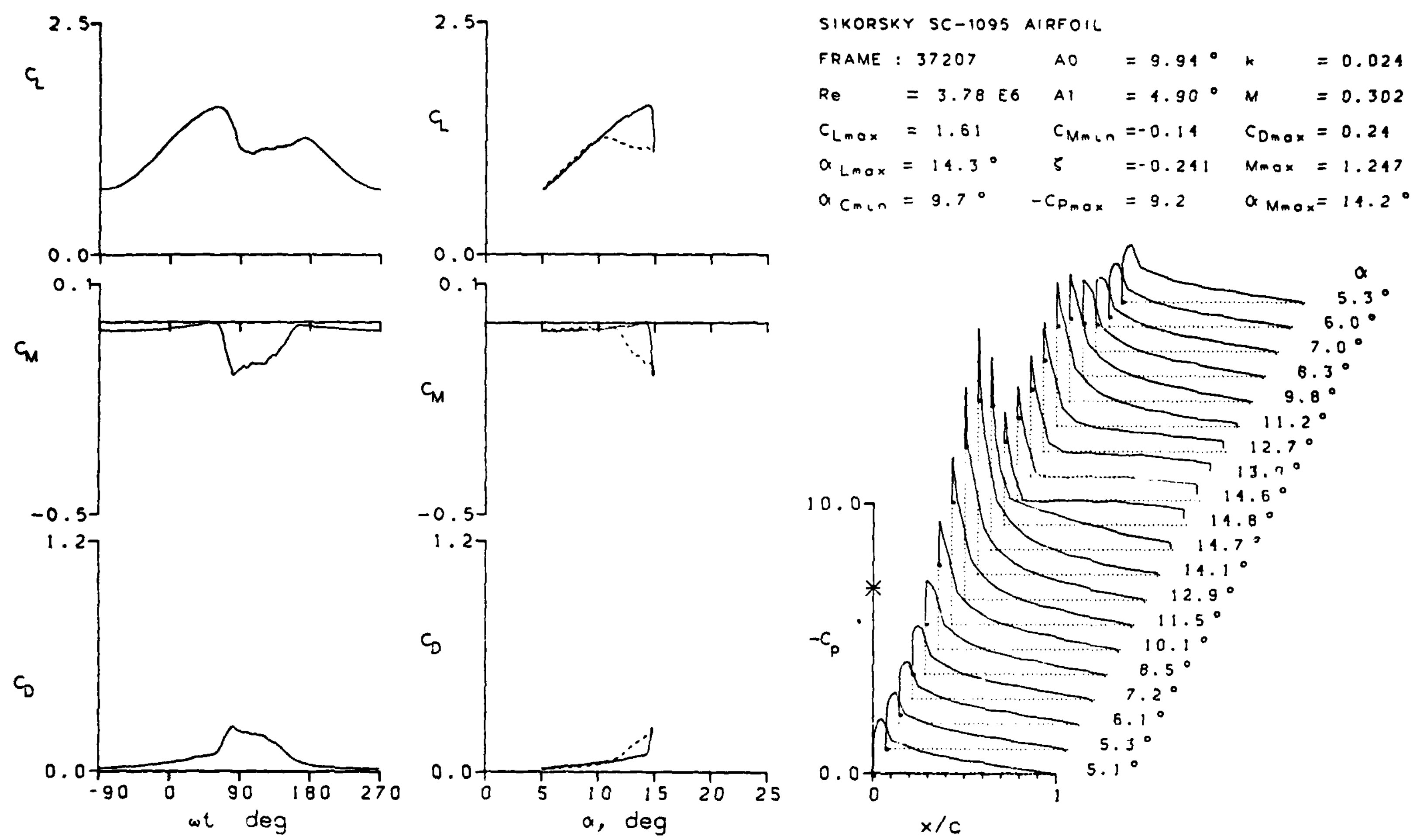

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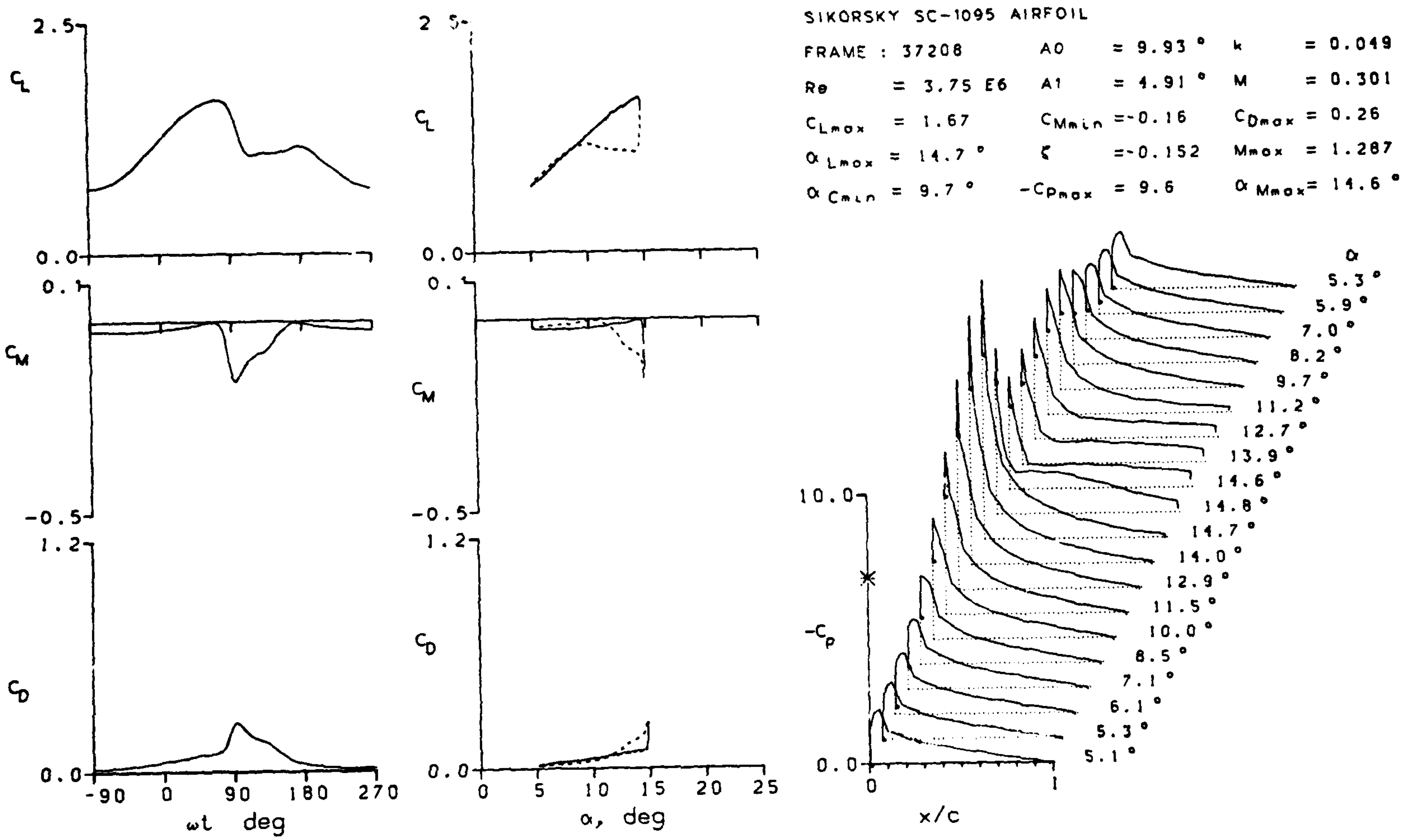

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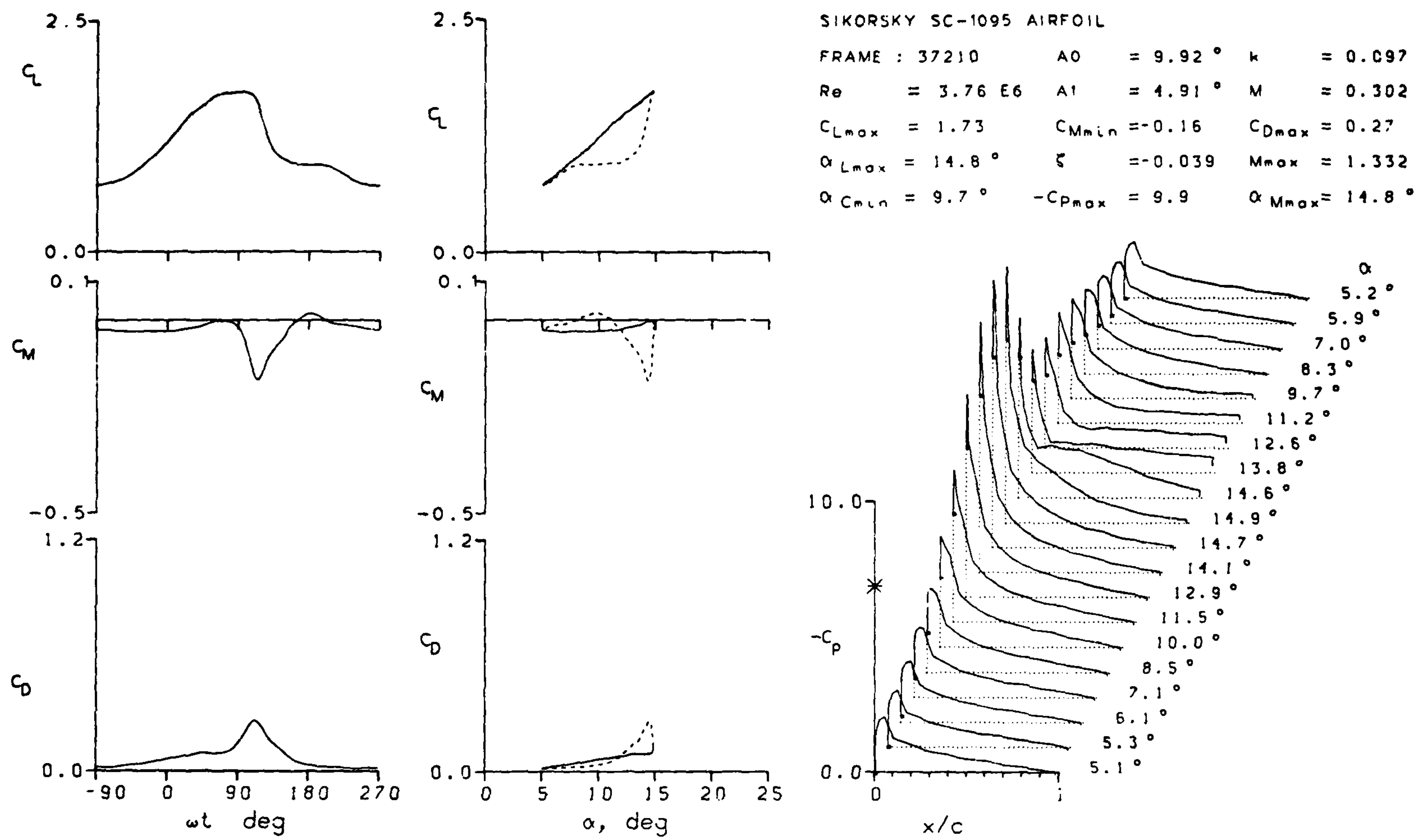

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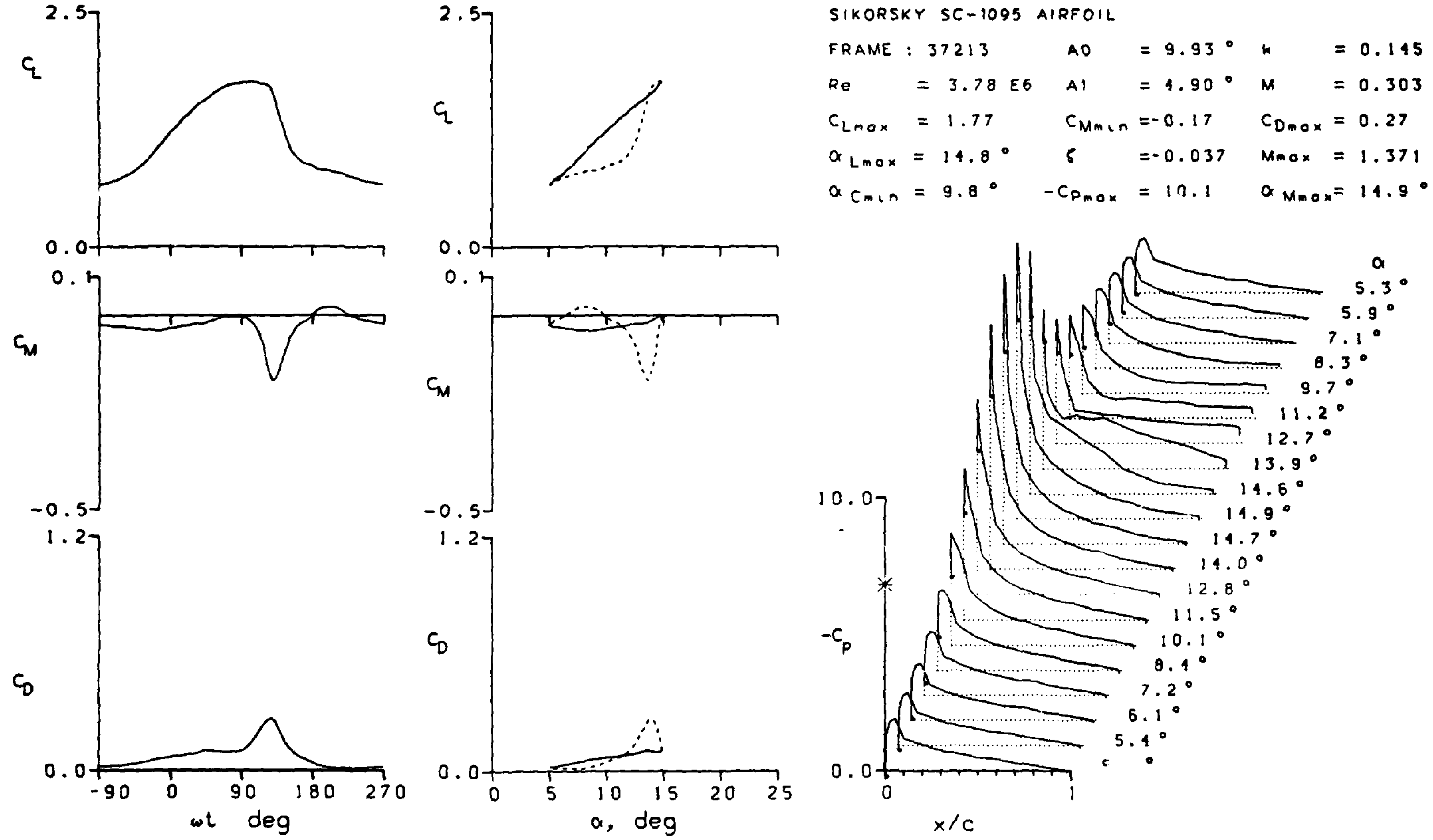

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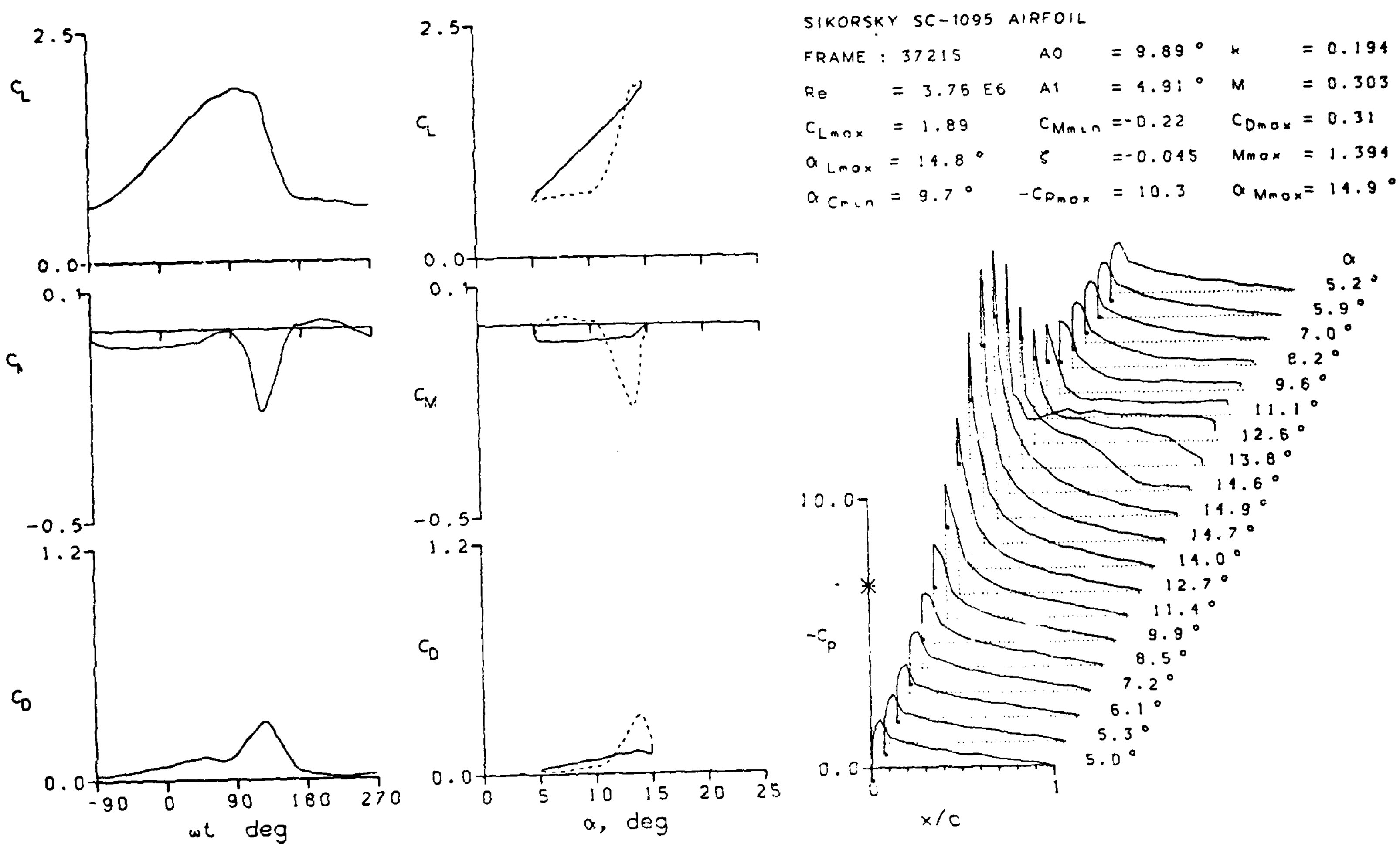

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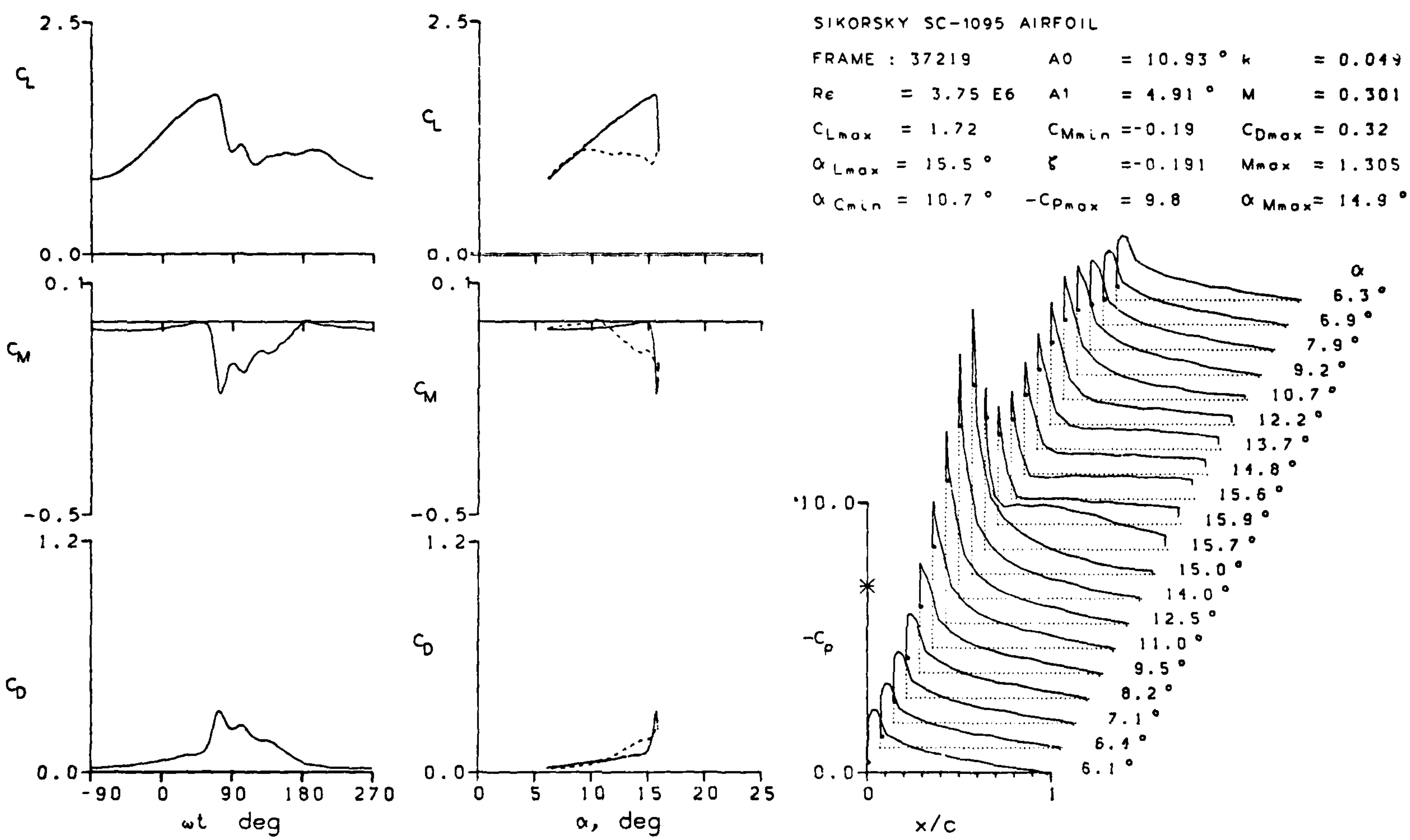

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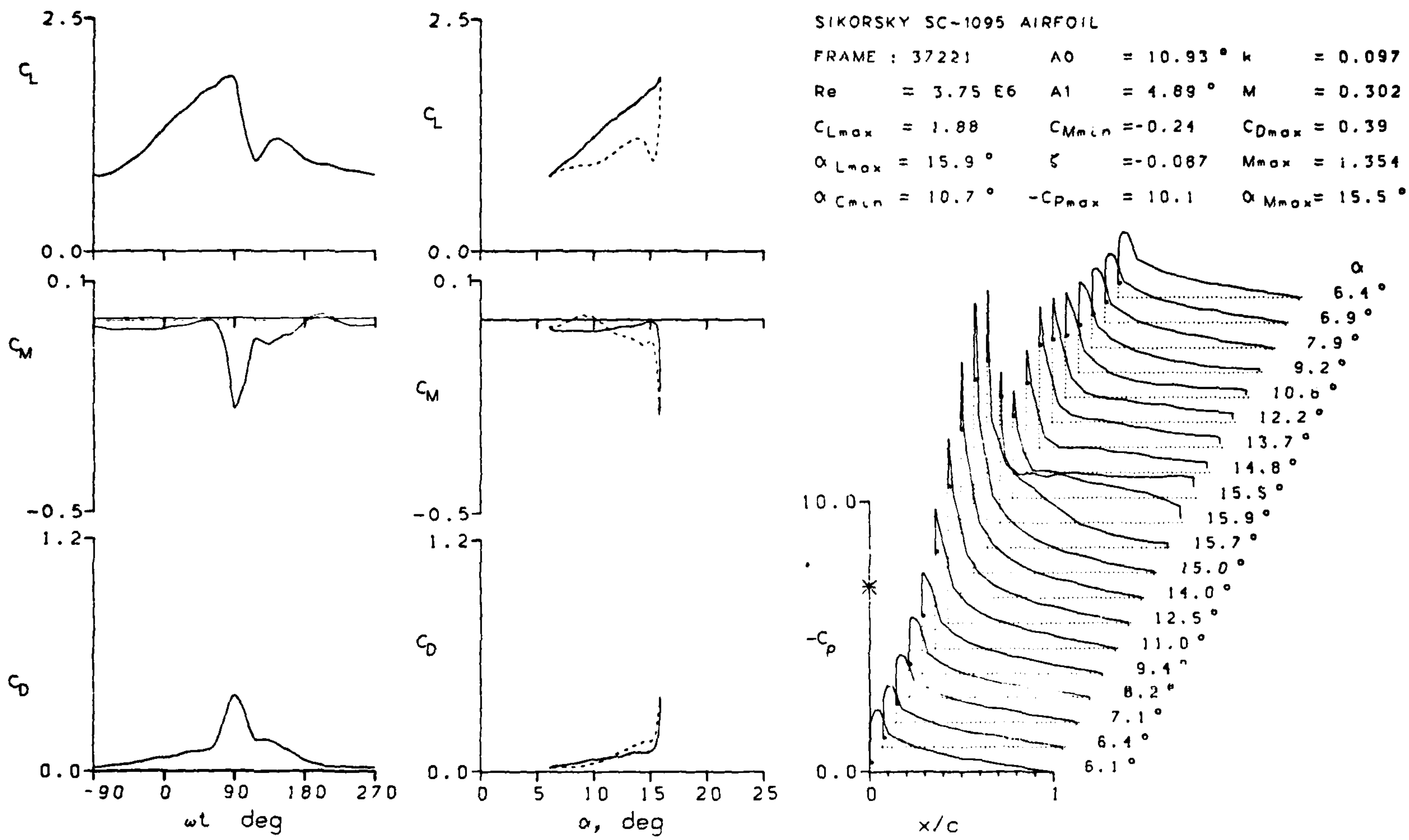

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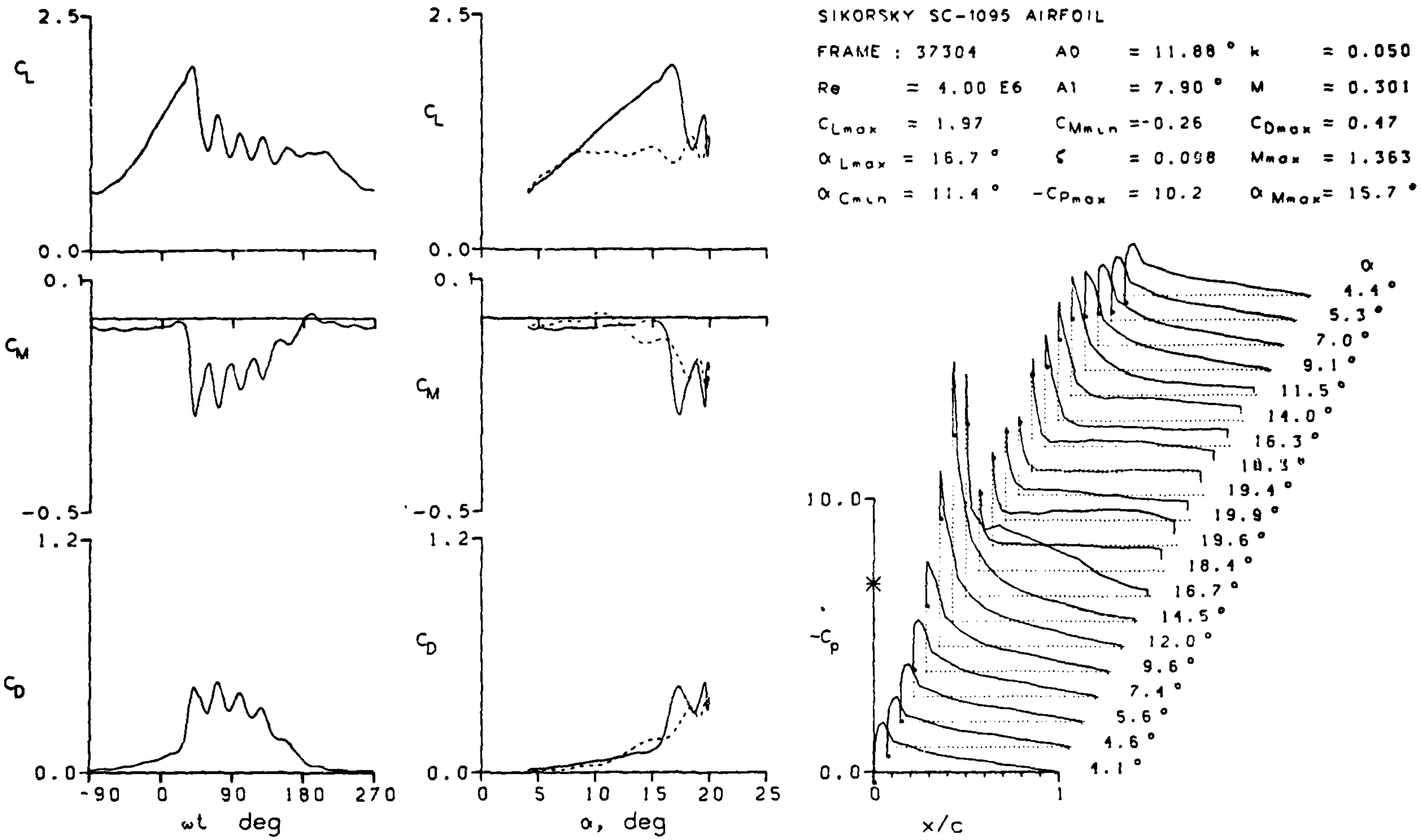

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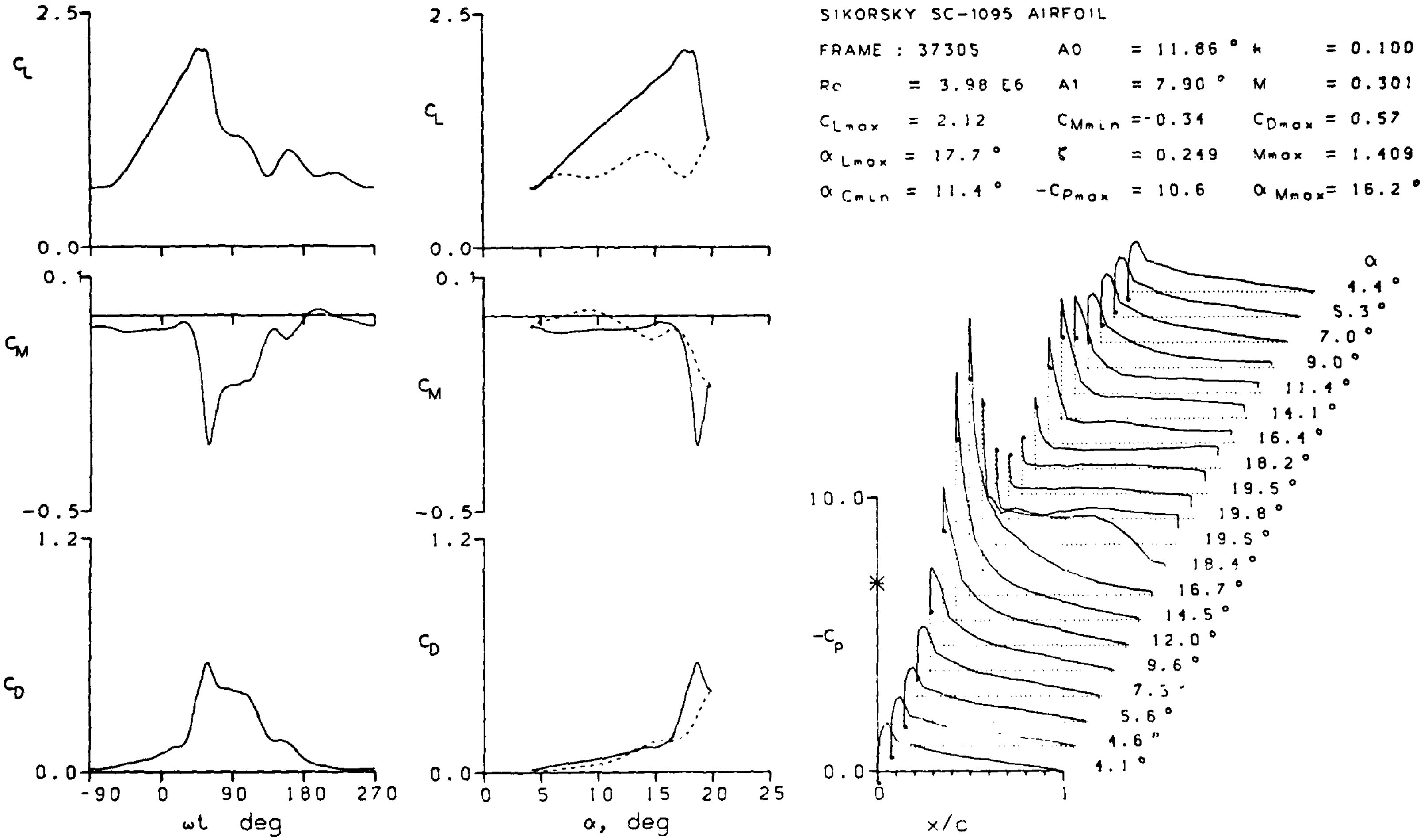

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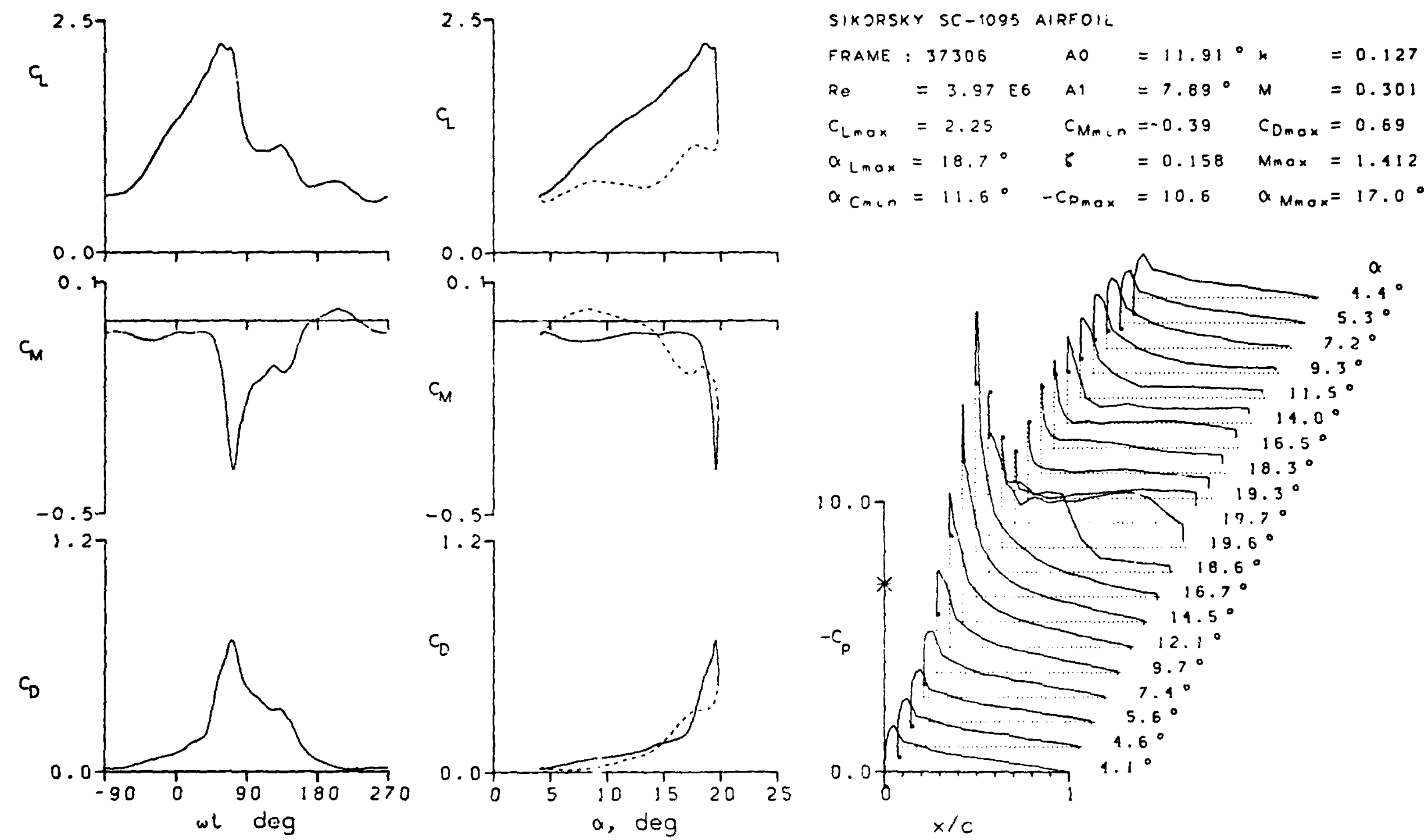

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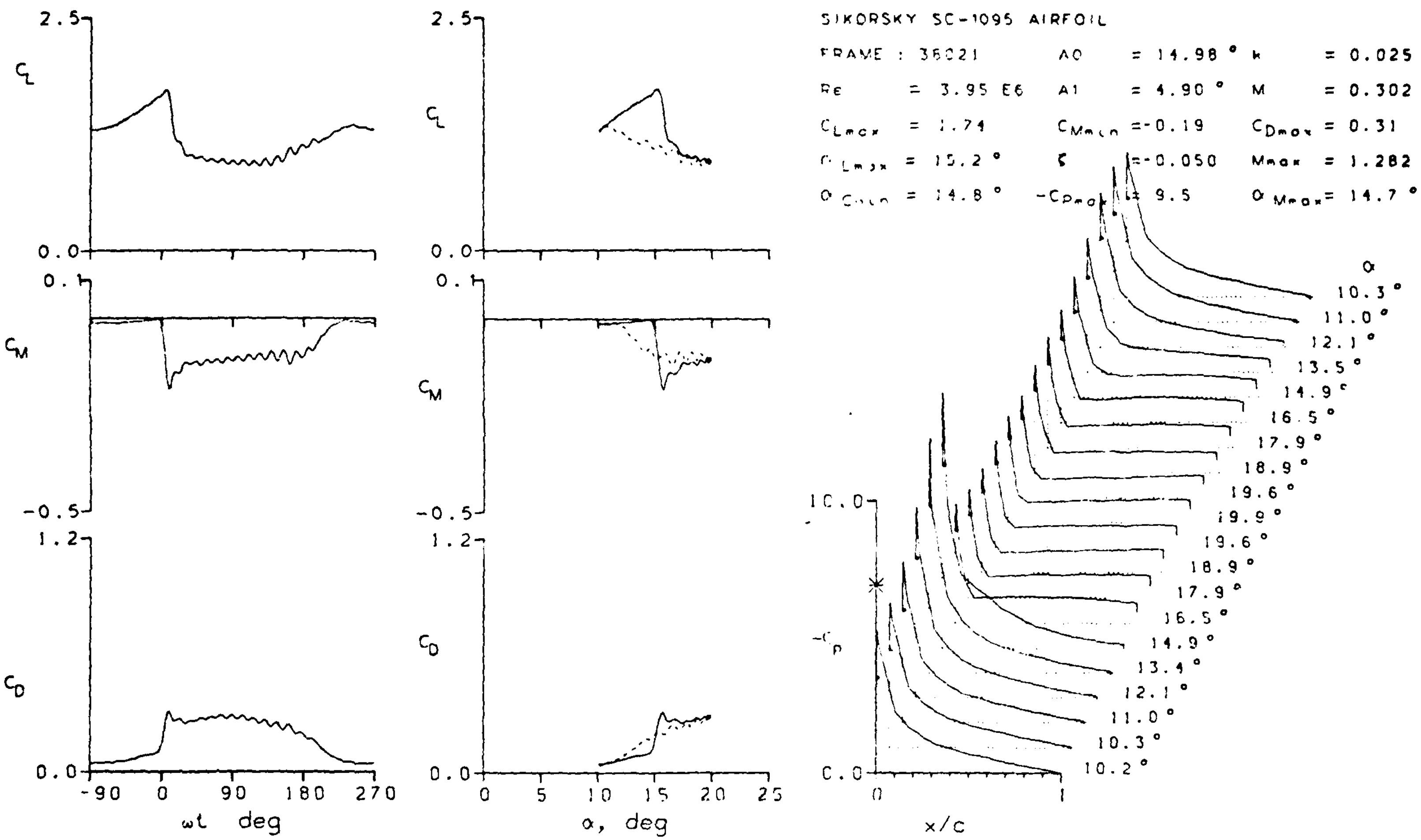

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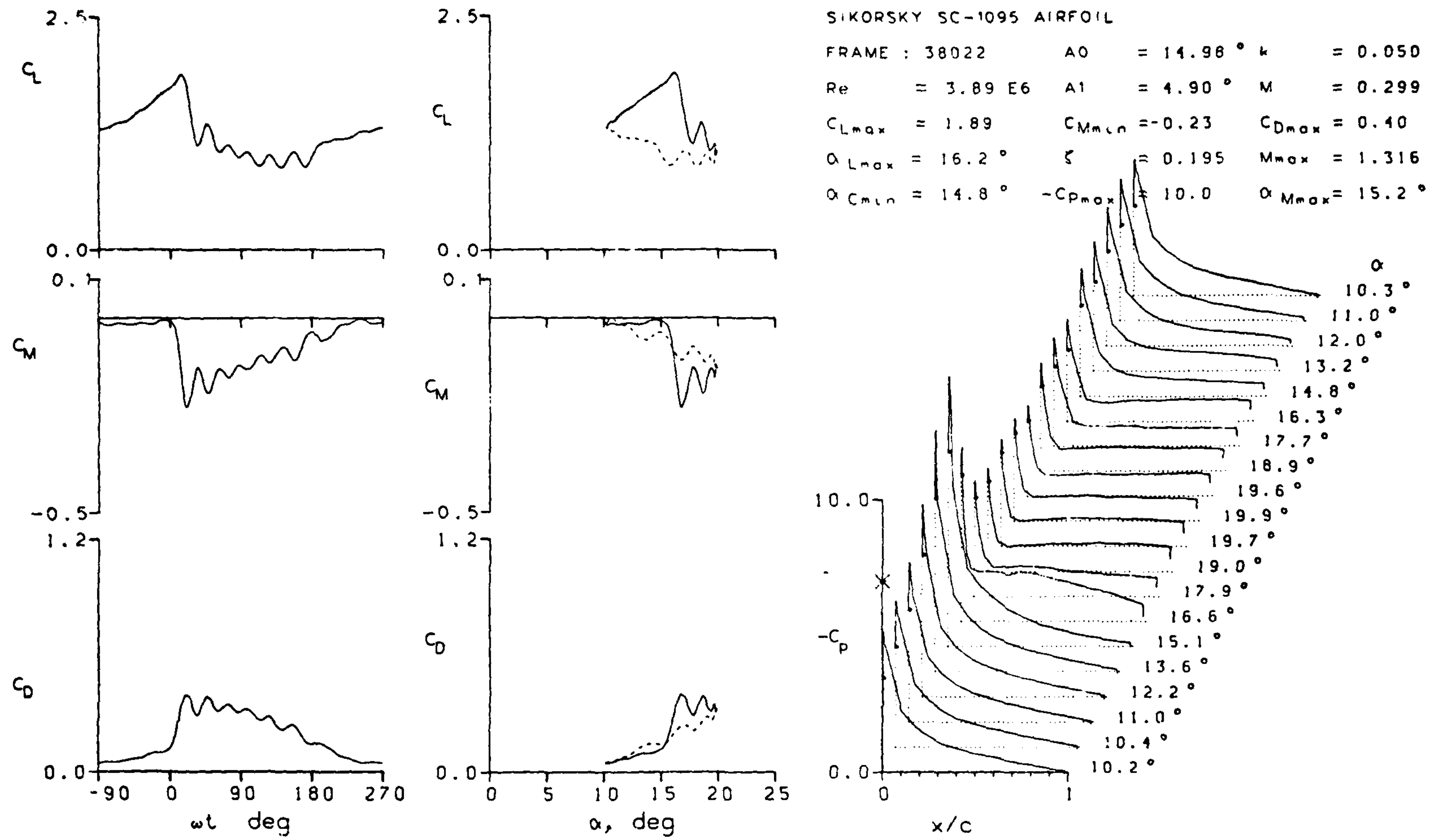

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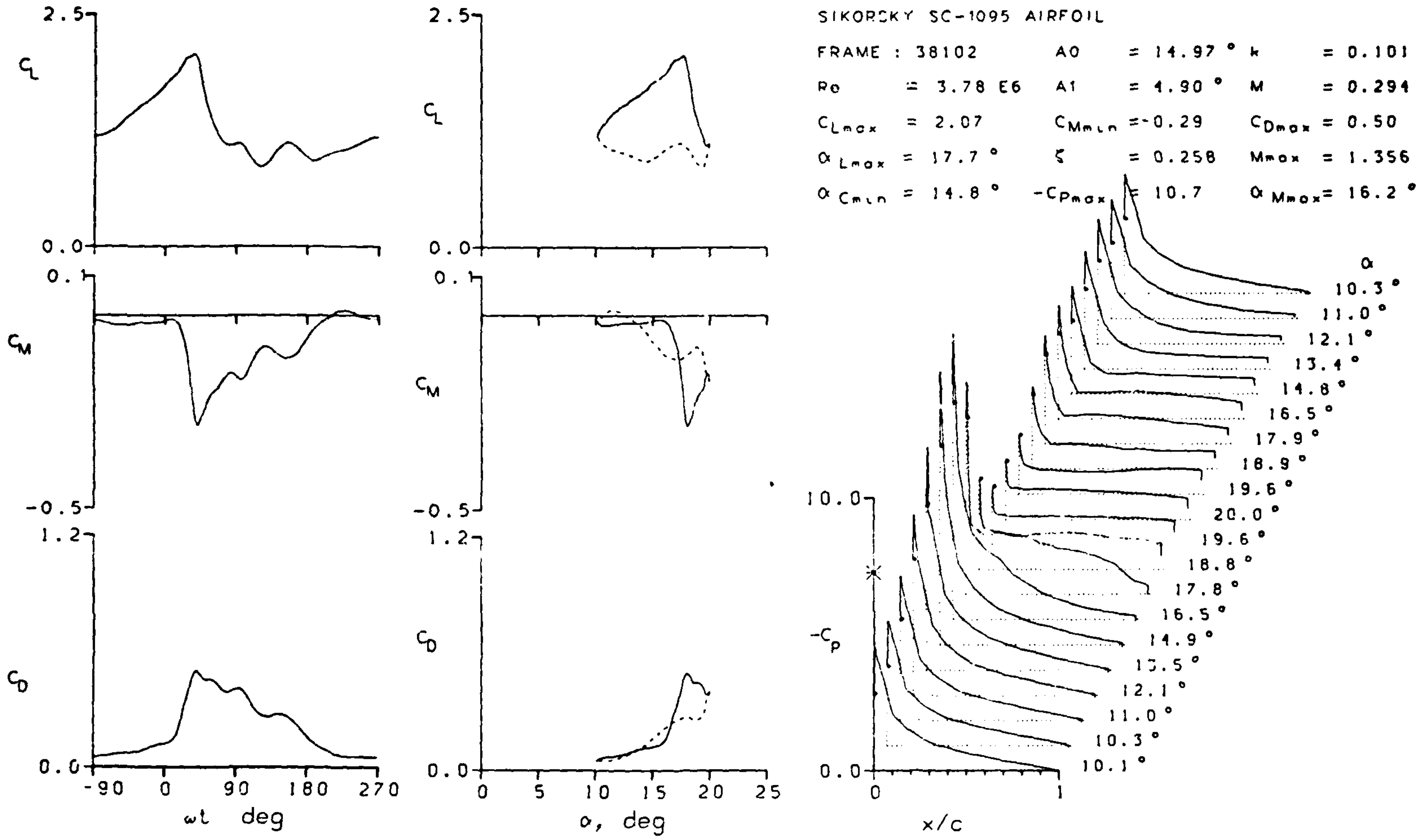

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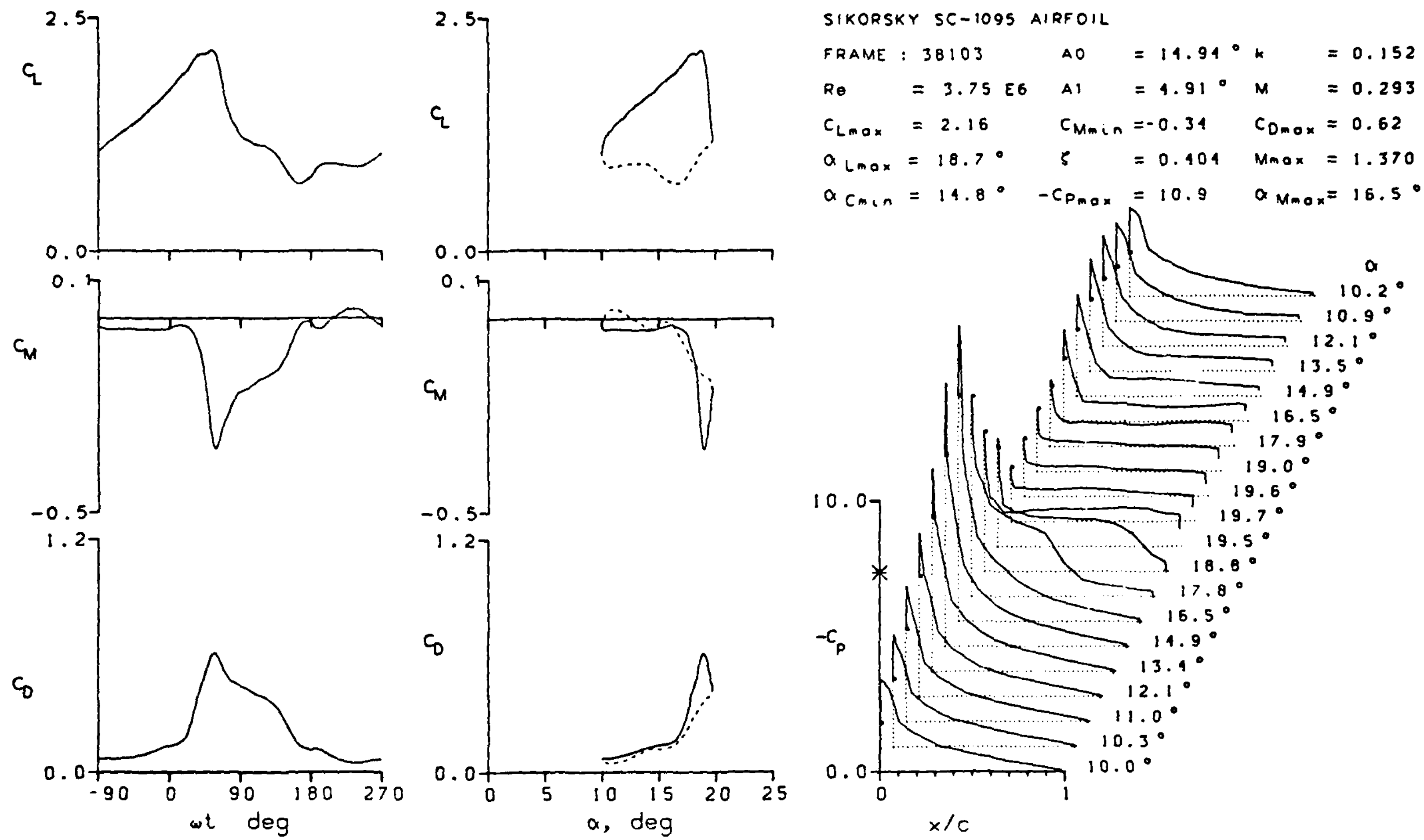

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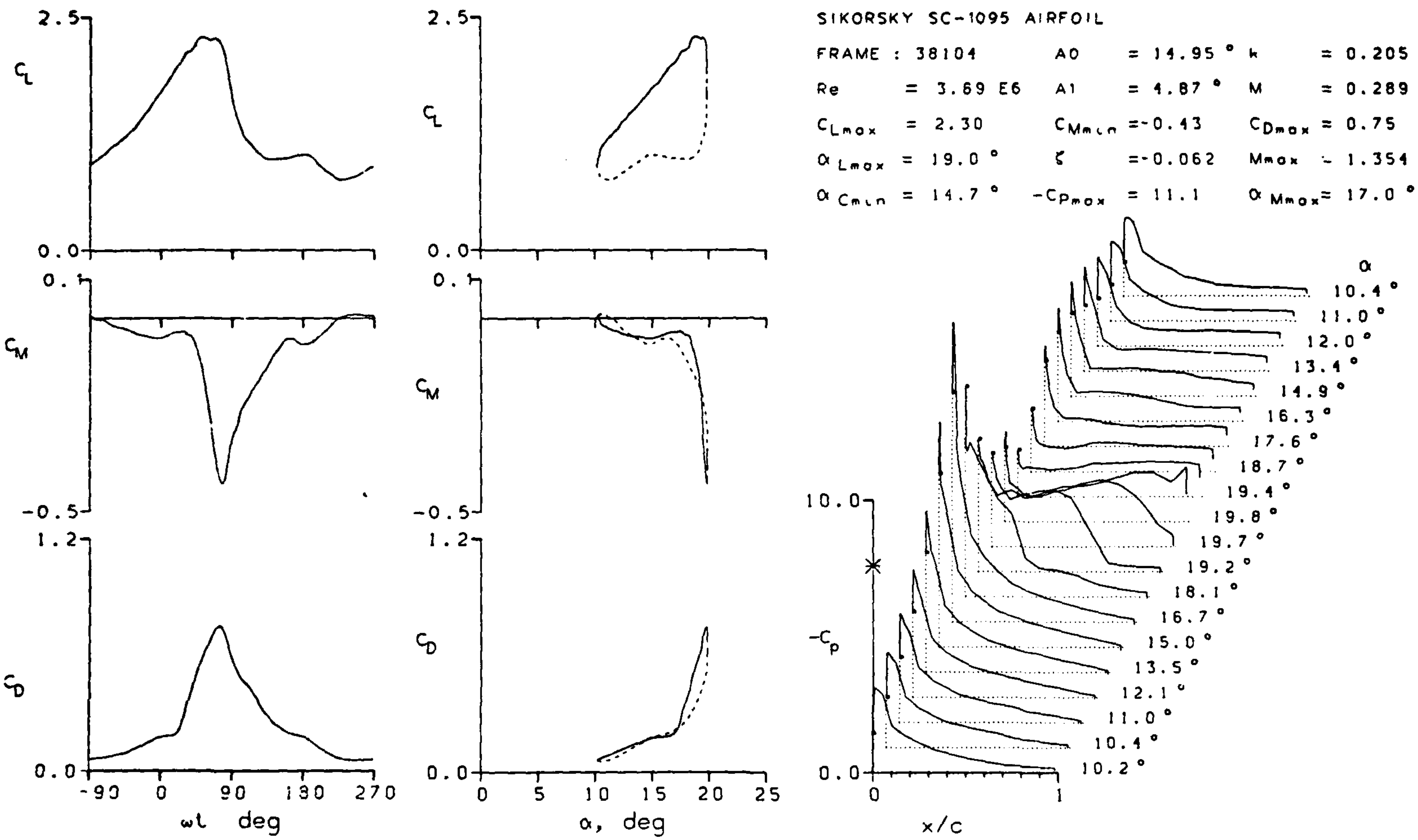

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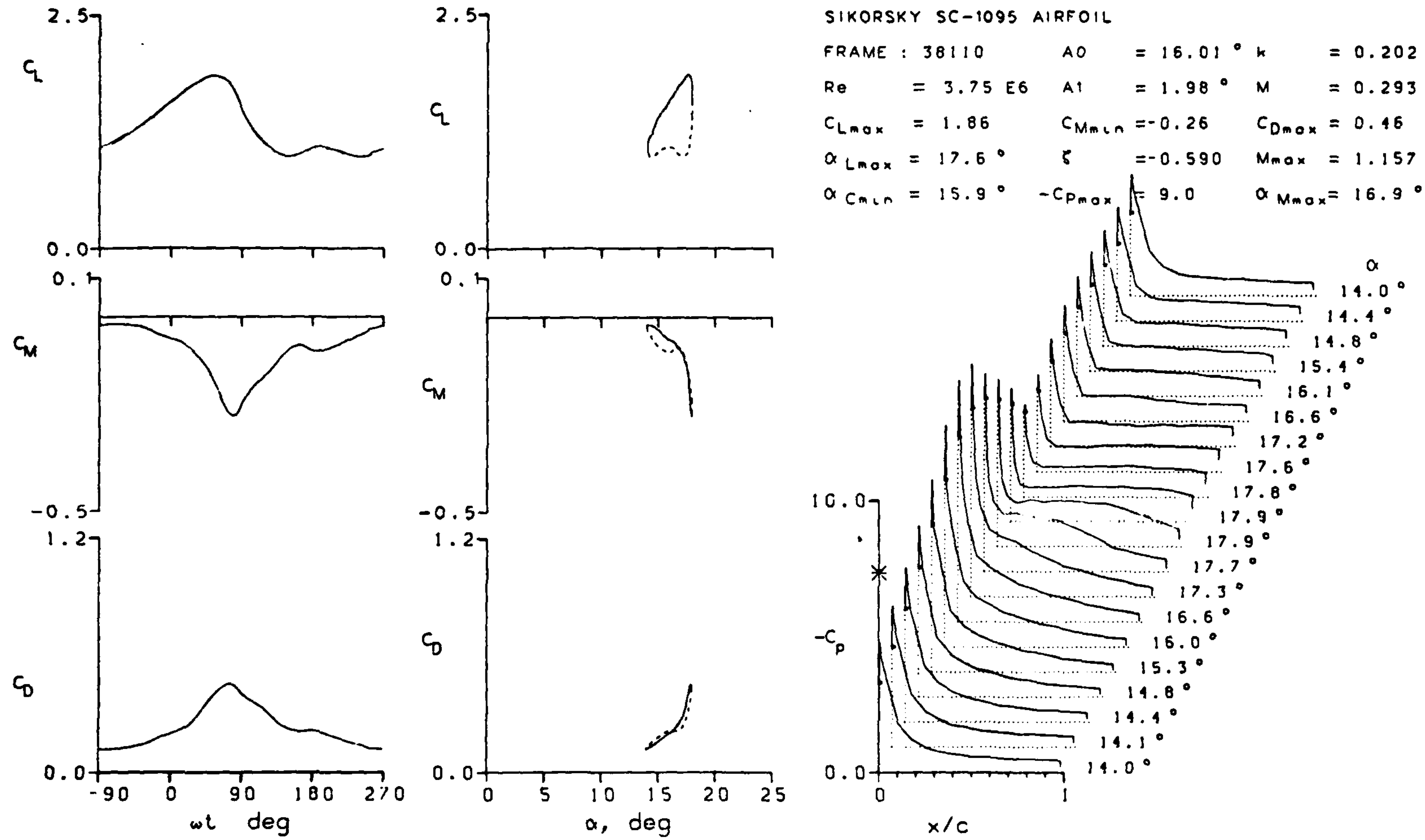

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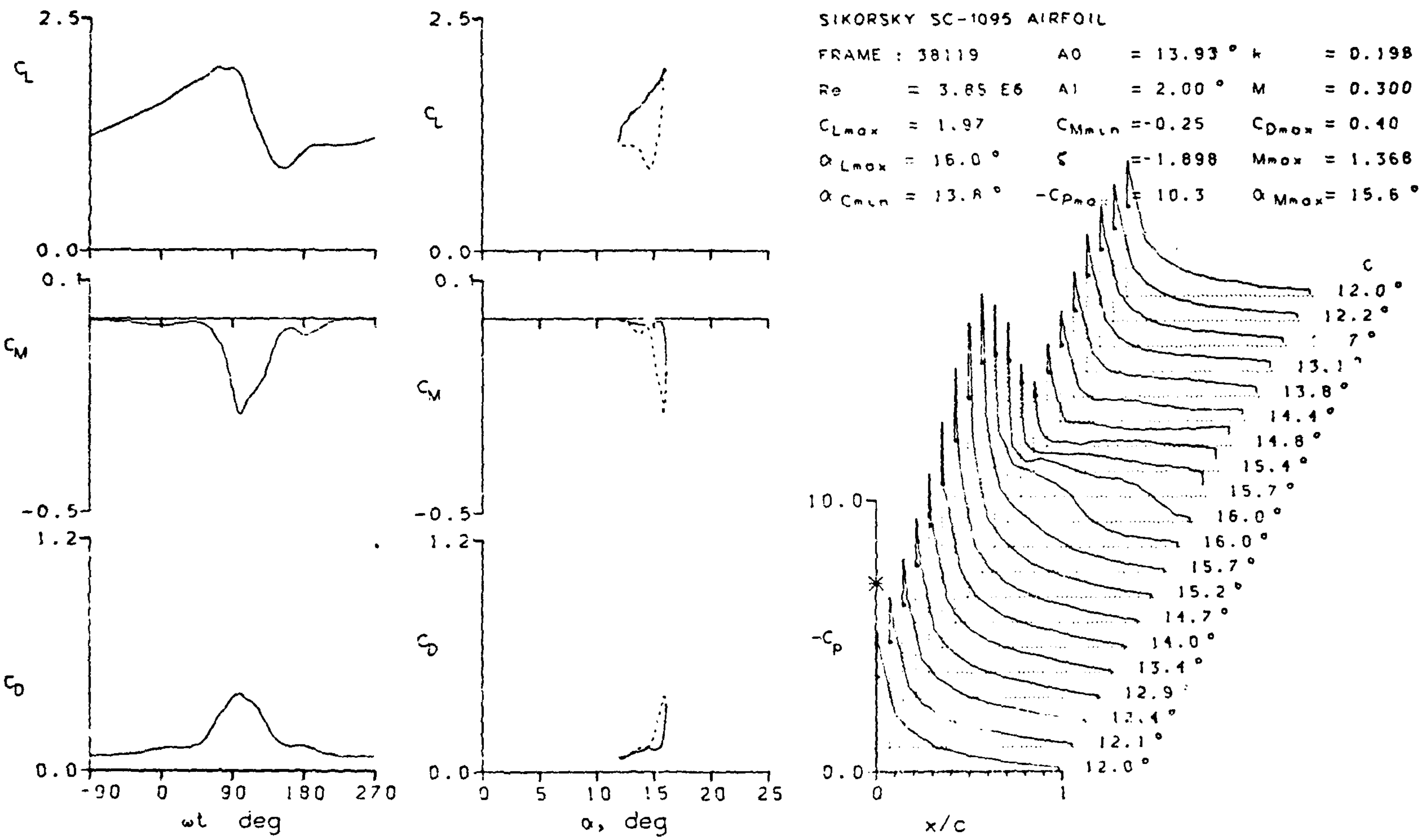

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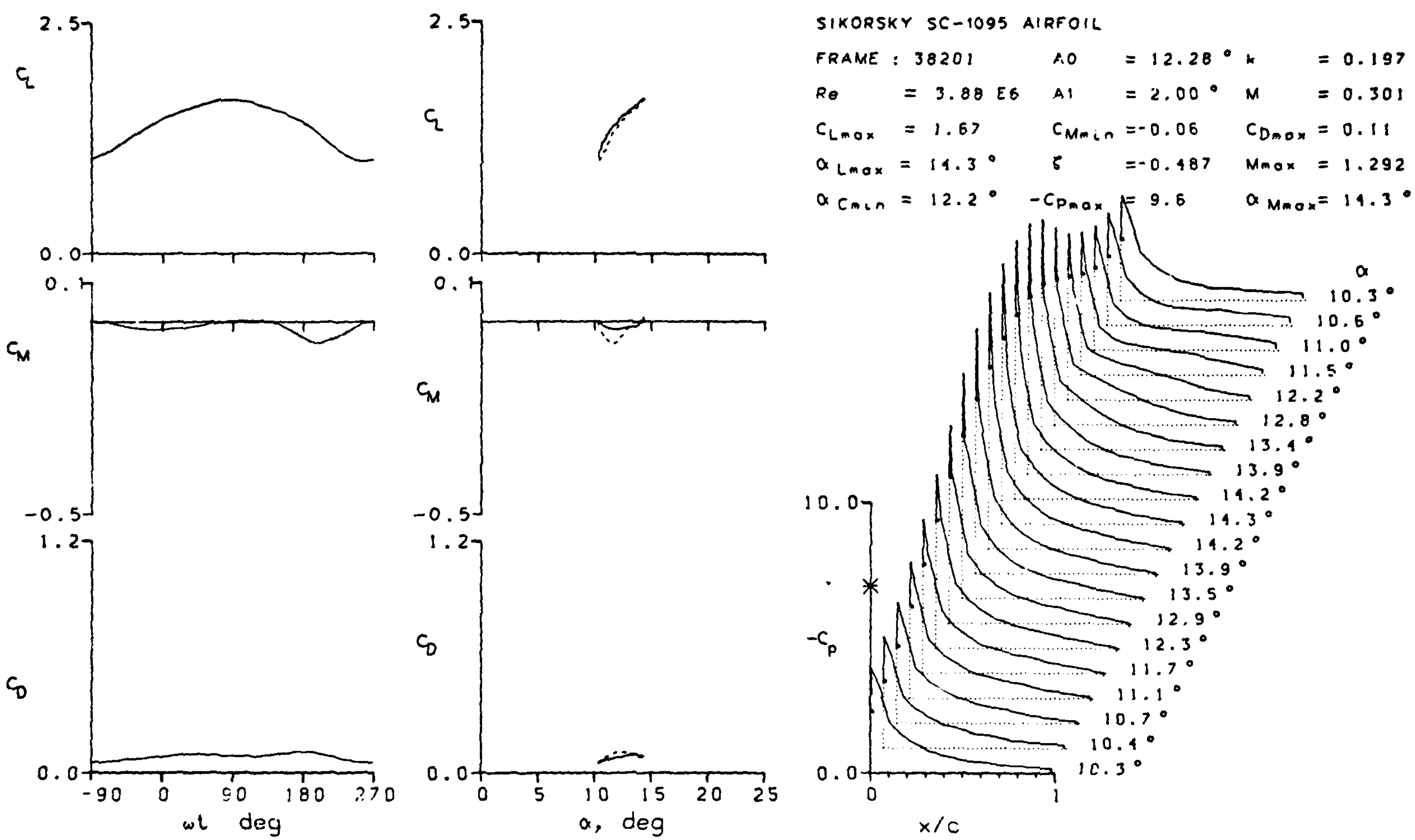

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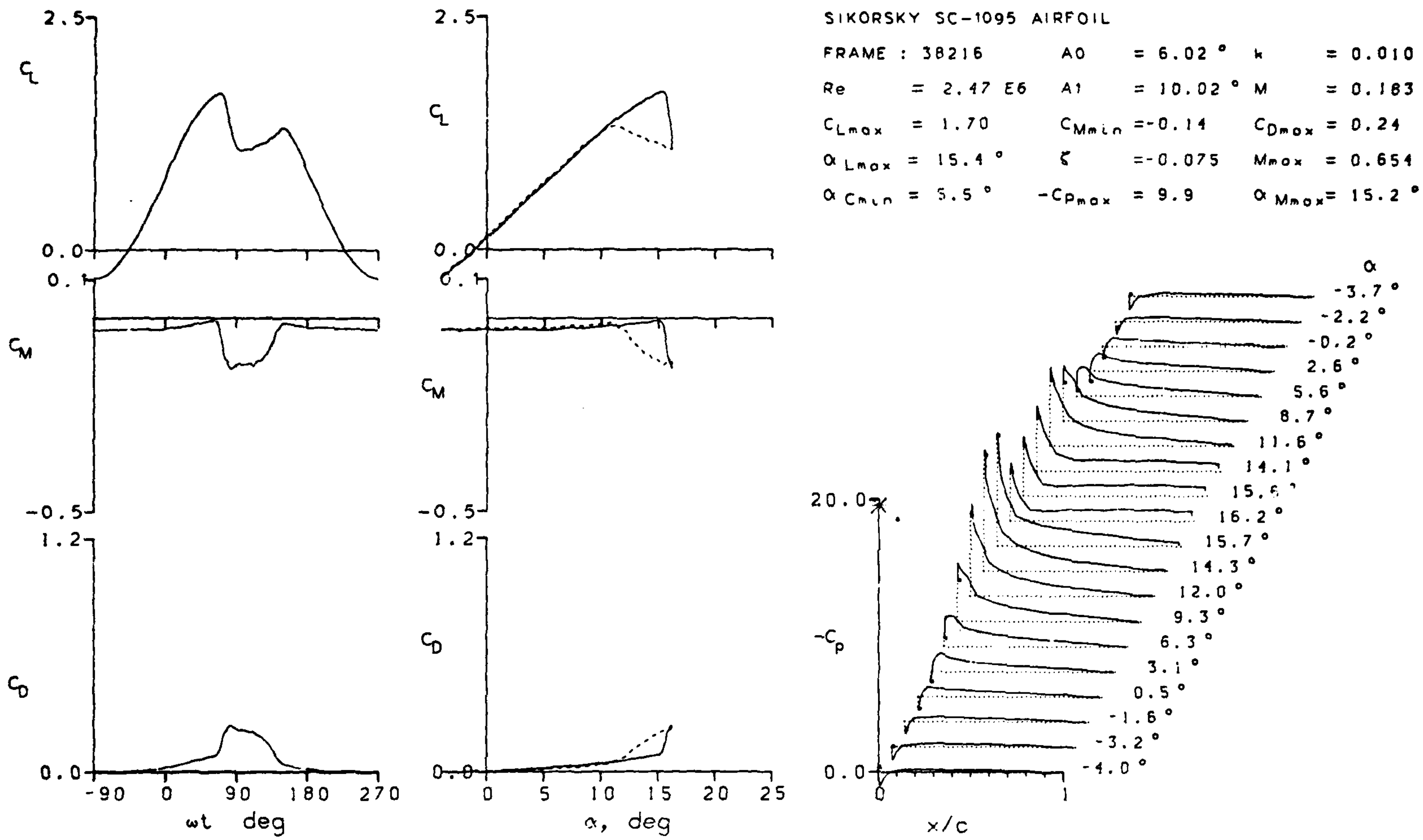

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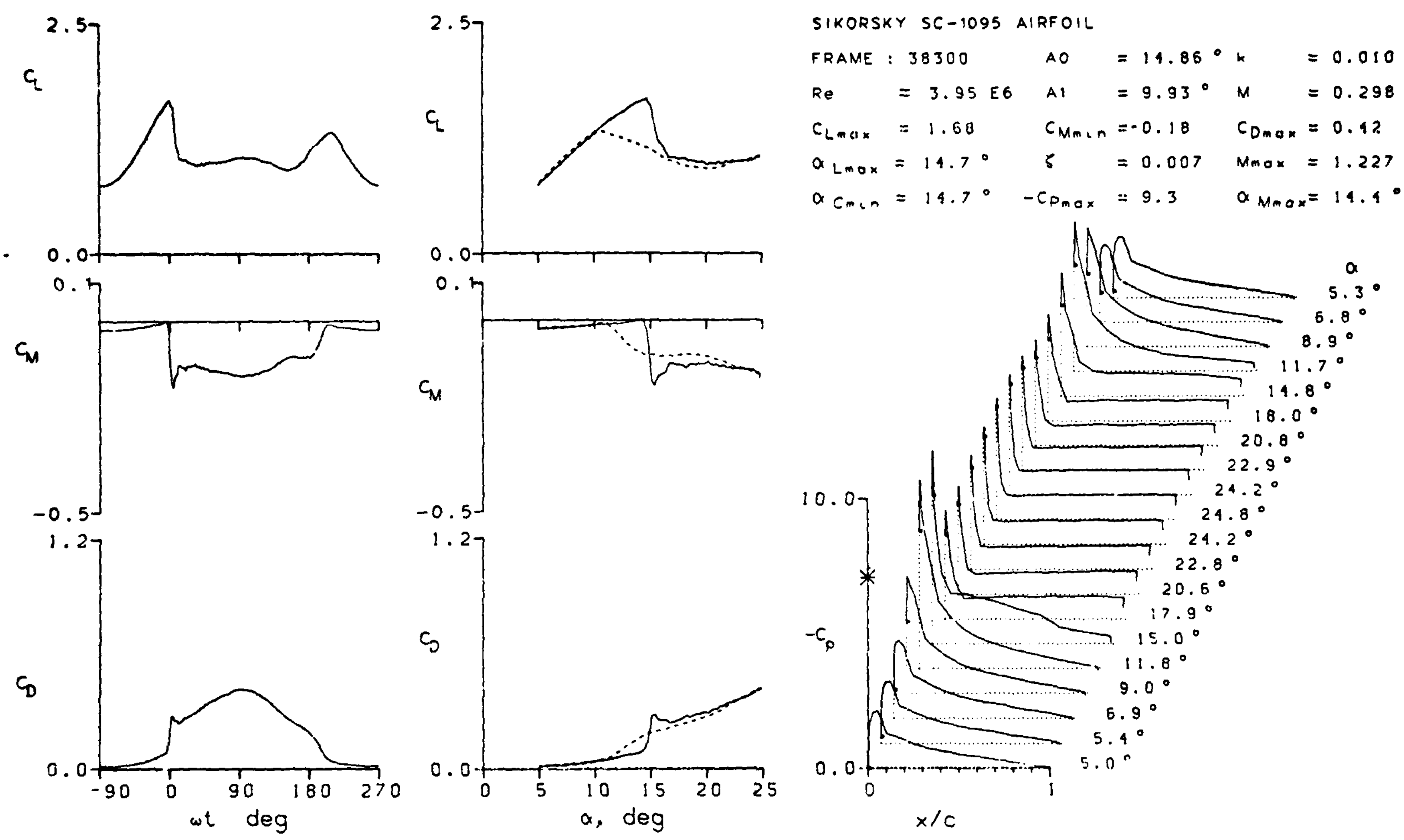

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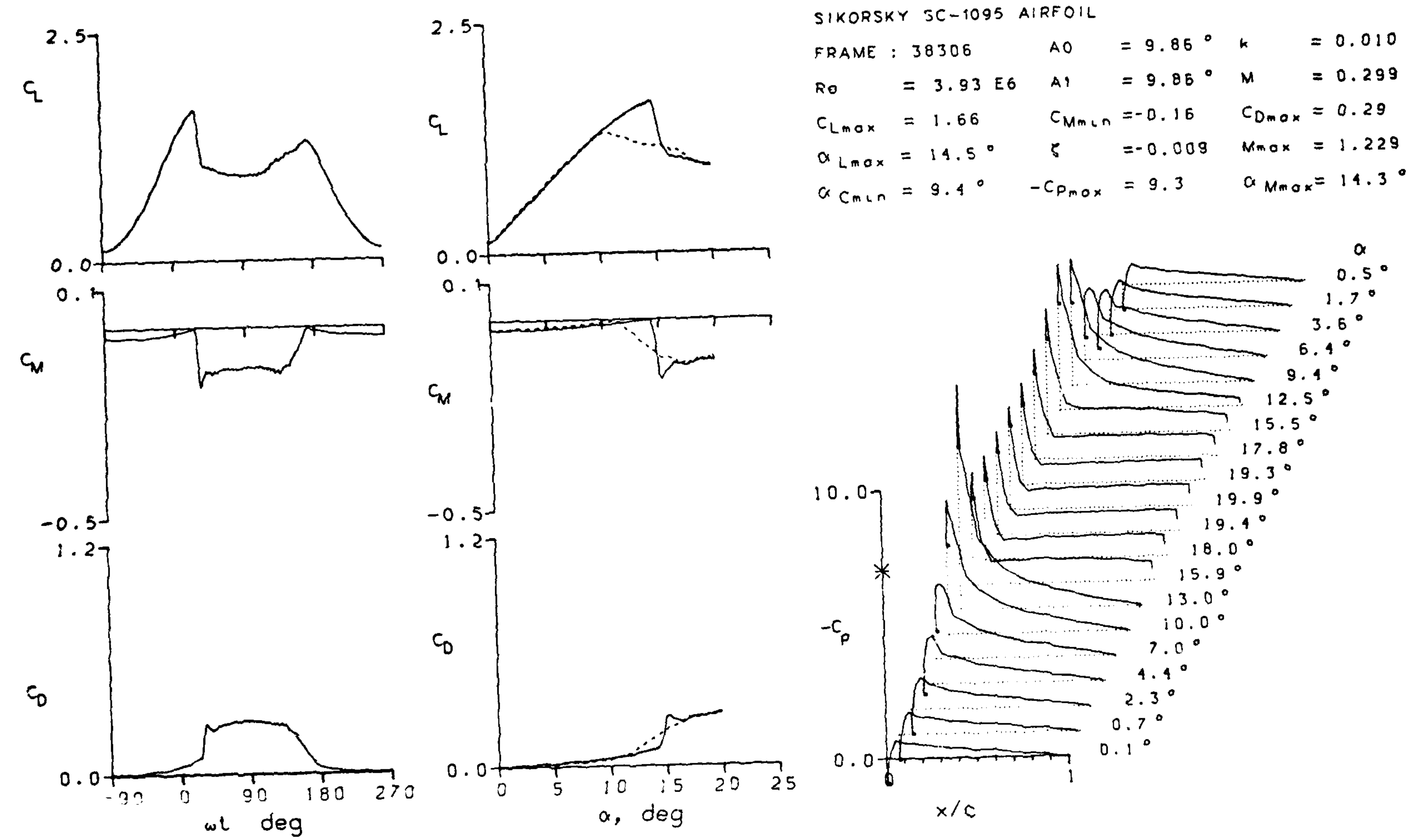

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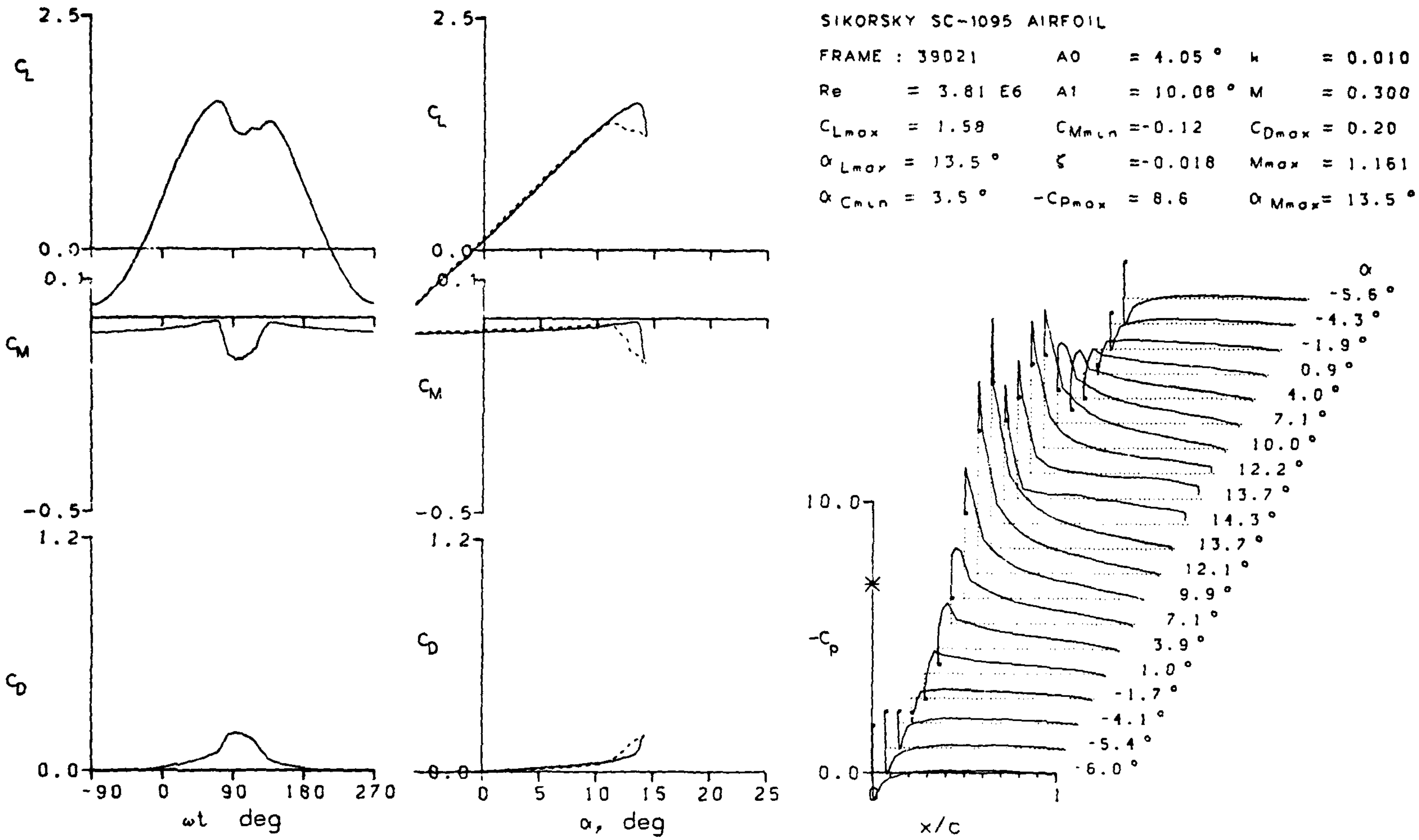

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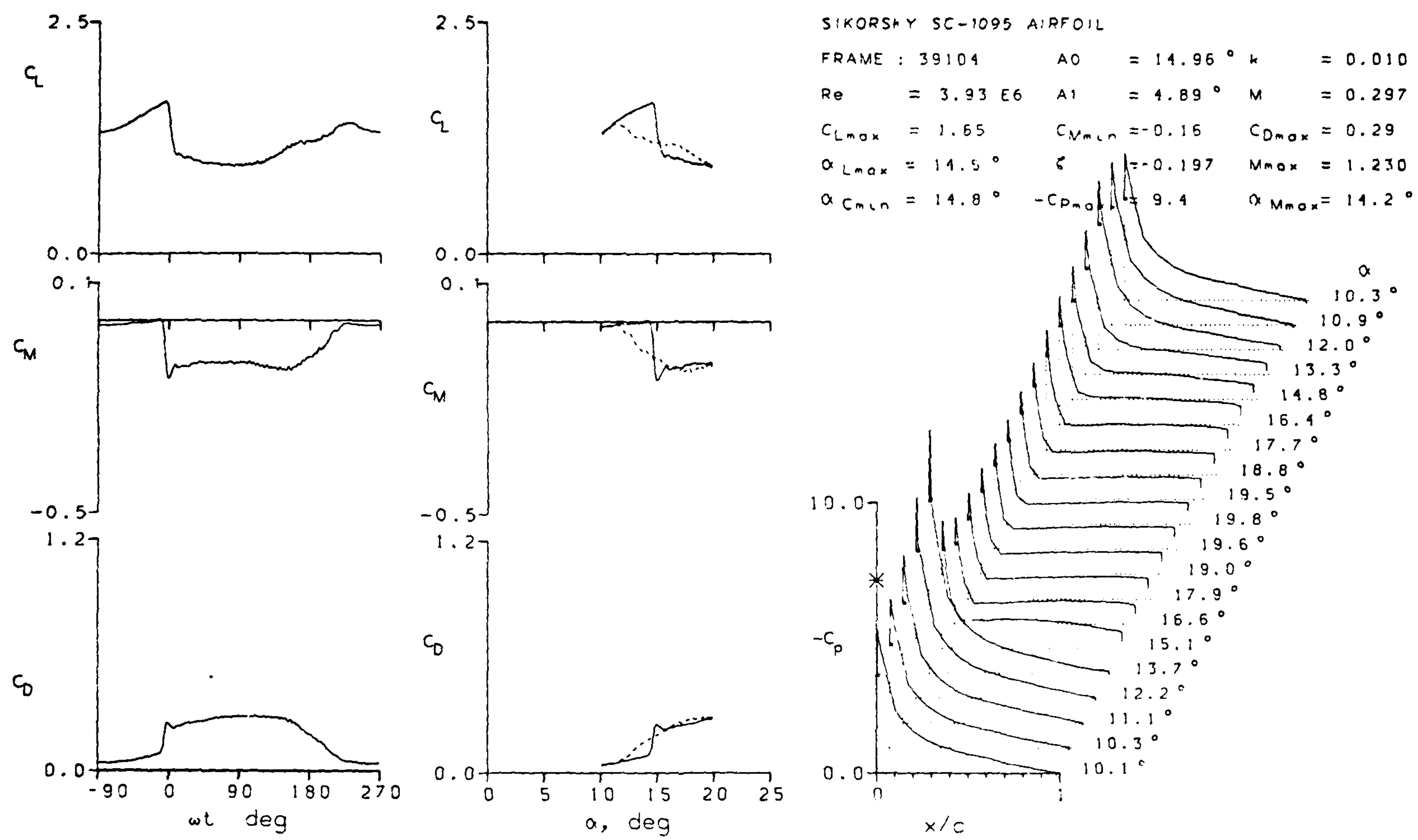

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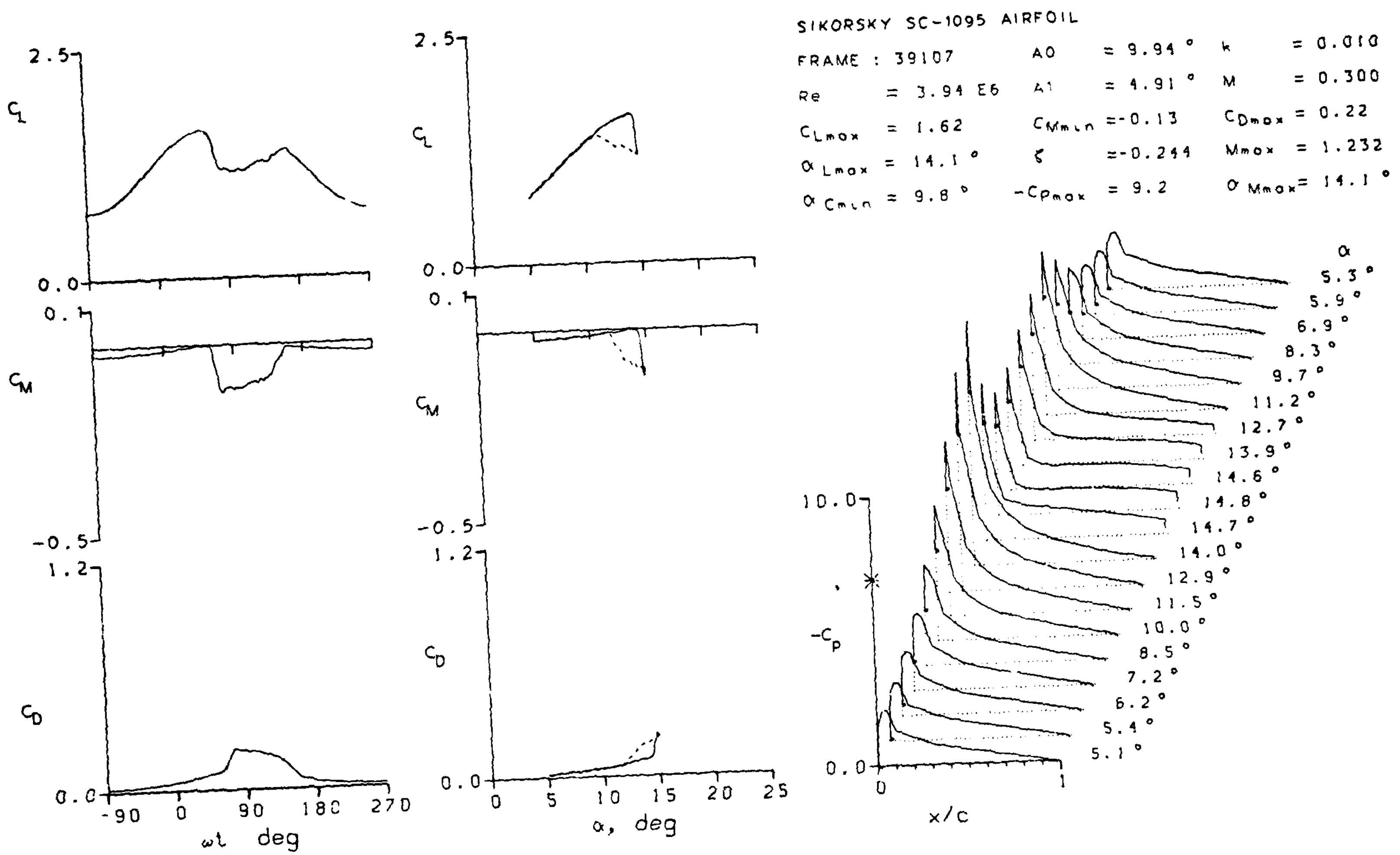

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AD-A121 598 AN EXPERIMENTAL STUDY OF DYNAMIC STALL ON ADVANCED AIRFOIL SECTIONS VOLUM..(U) NATIONAL AERONUATICS AND SPACE ADMINISTRATION MOFFETT FIELD C.. 5/9

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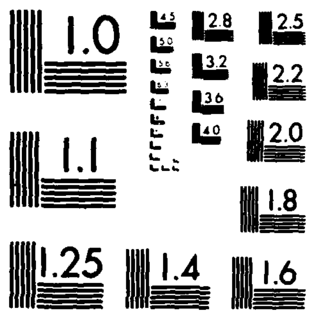

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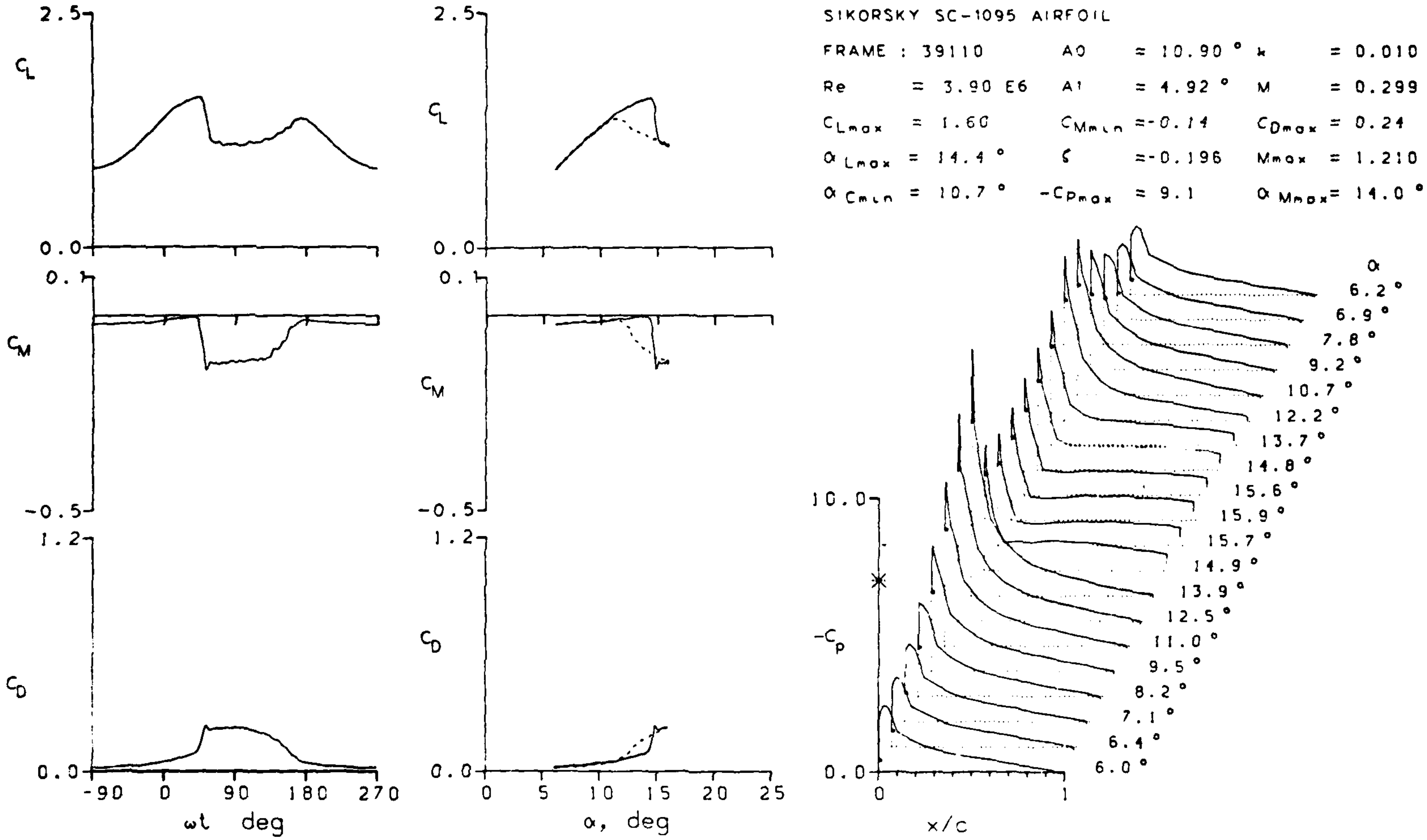

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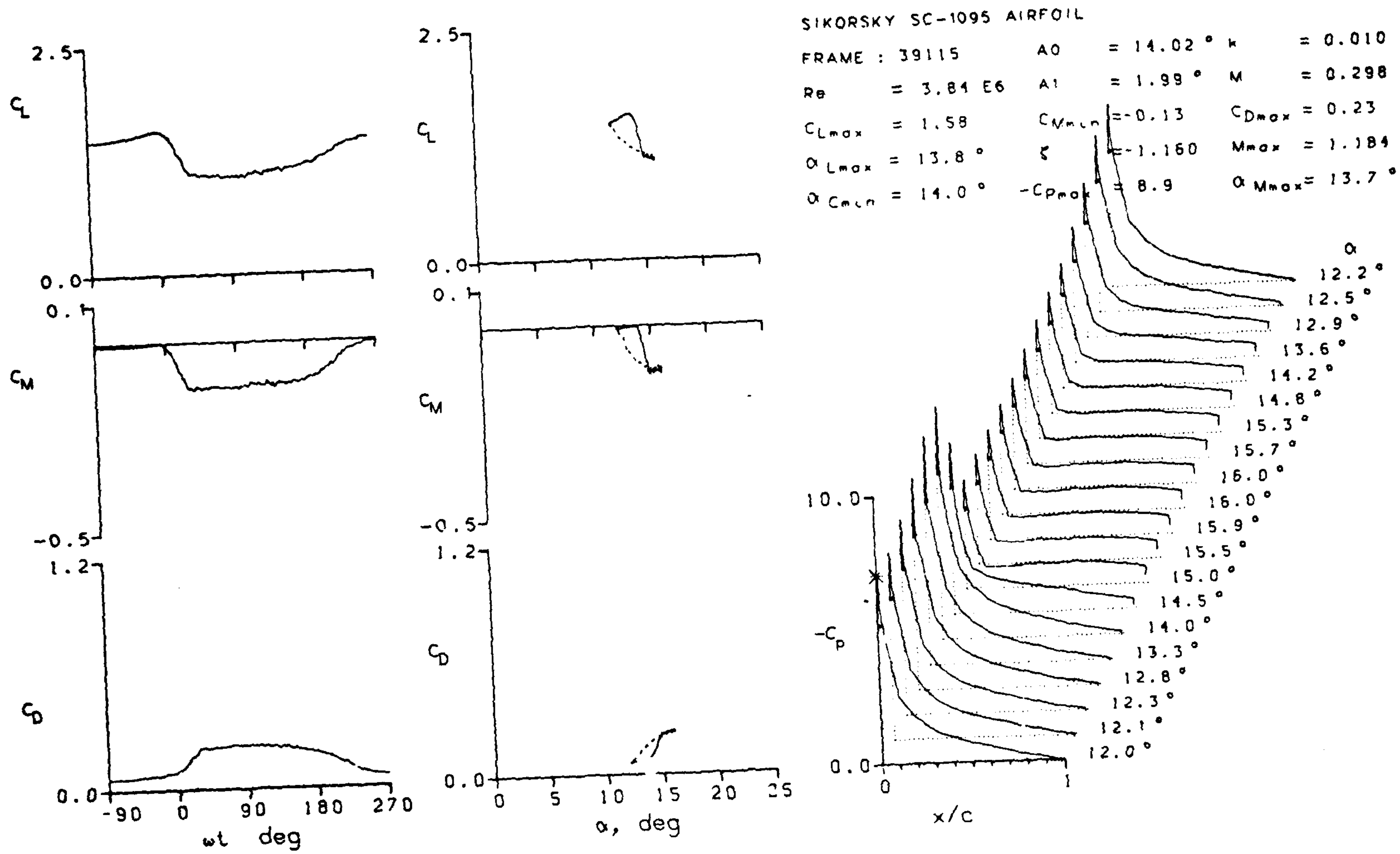

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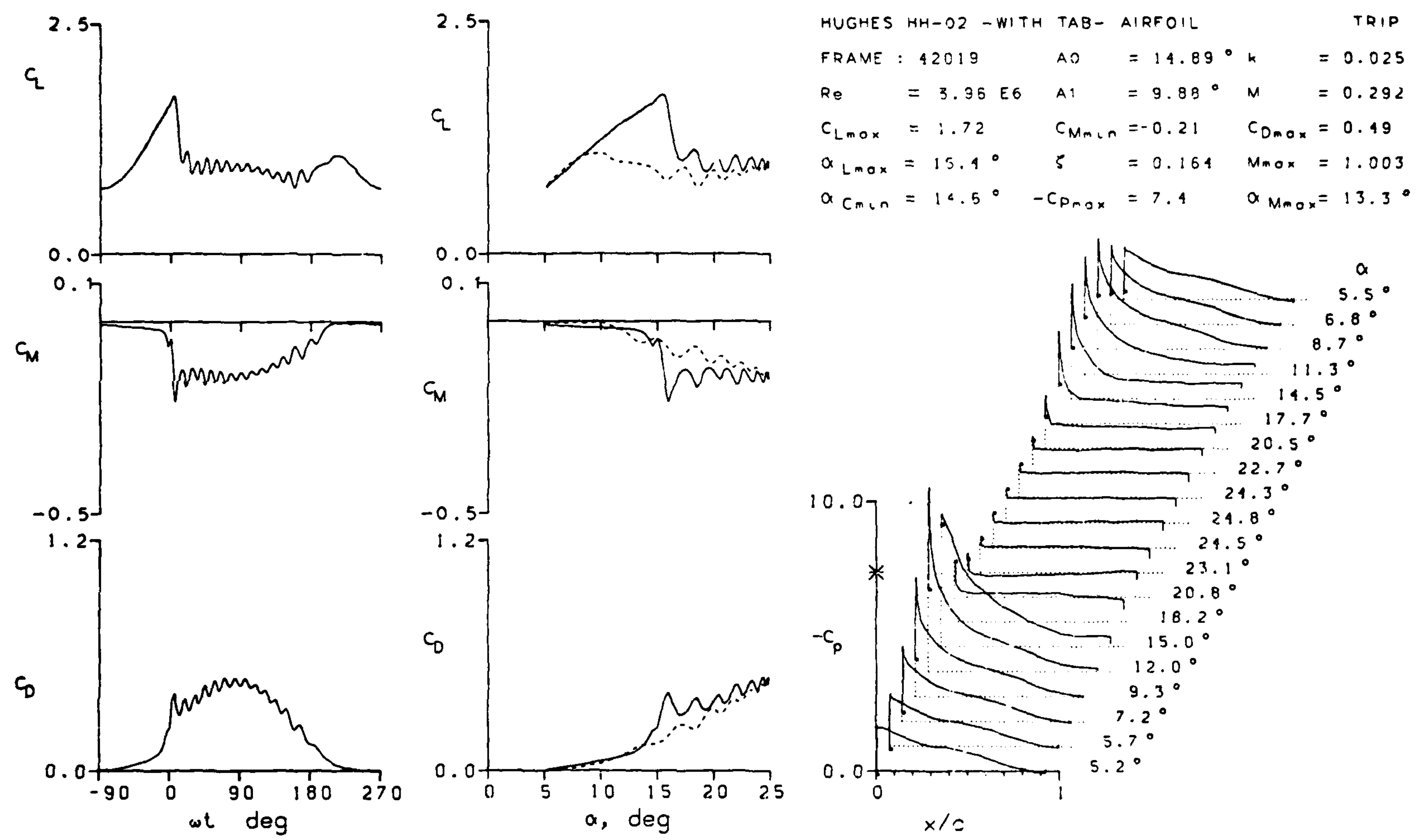
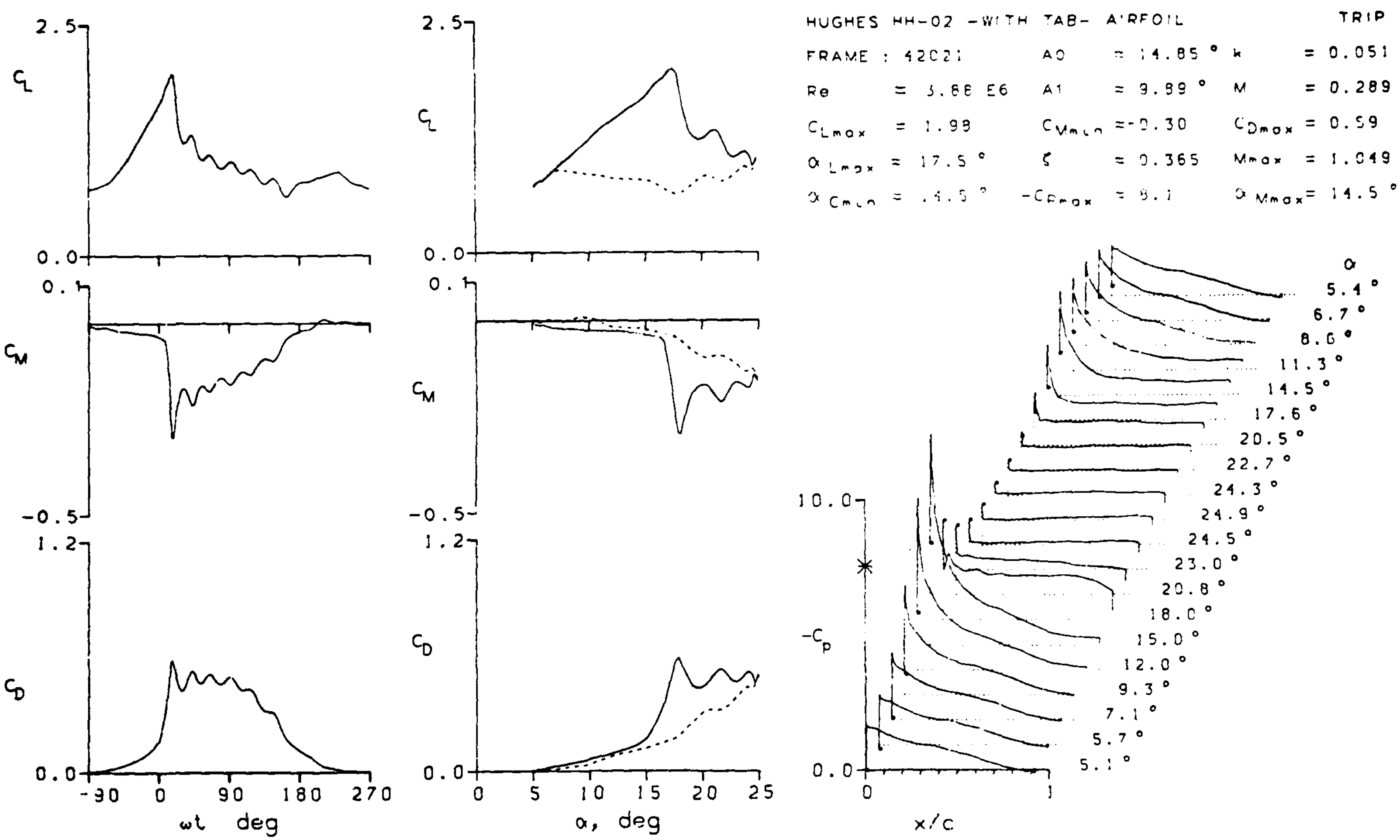


Figure 16.- Dynamic data for Hughes HH-02 airfoil.



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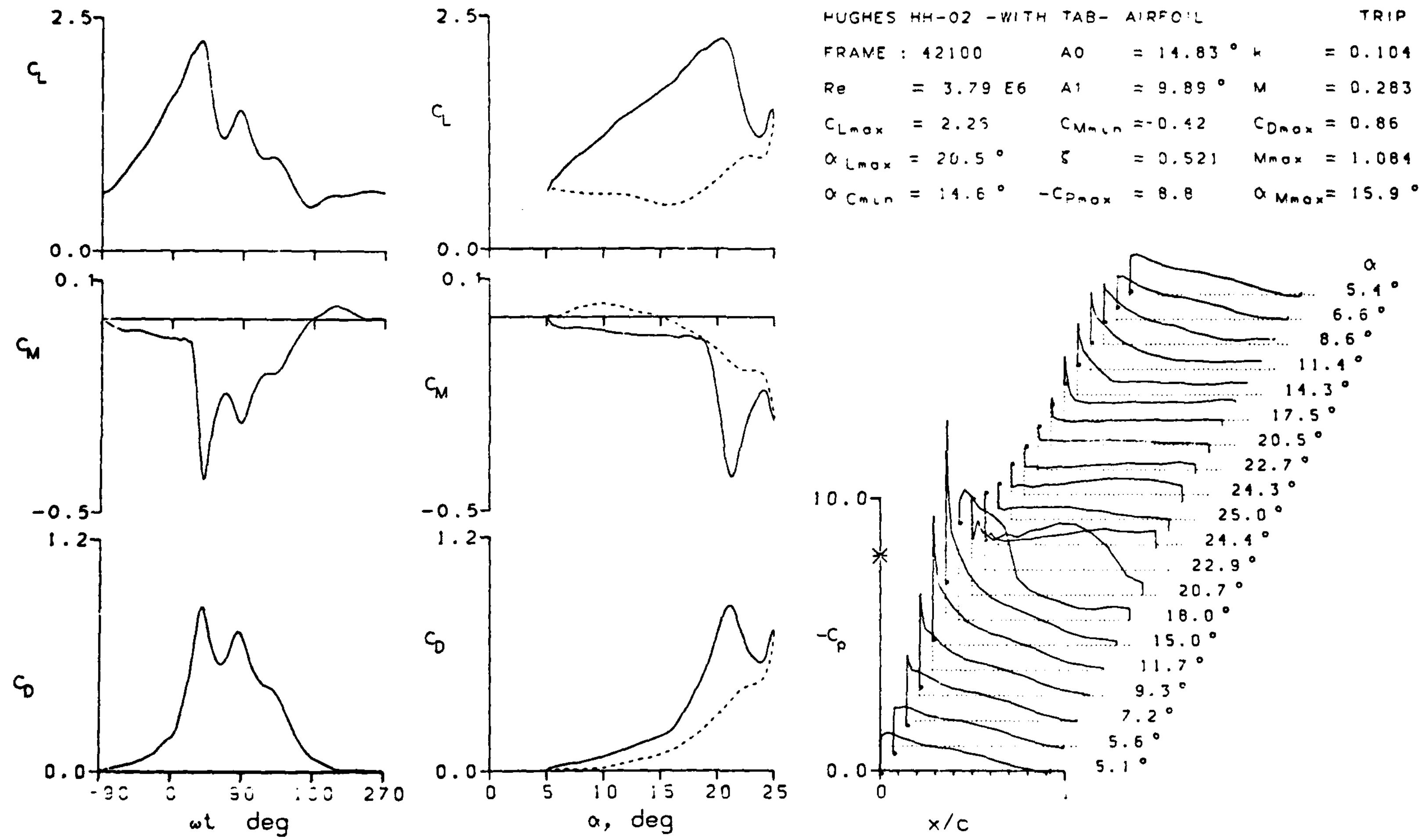

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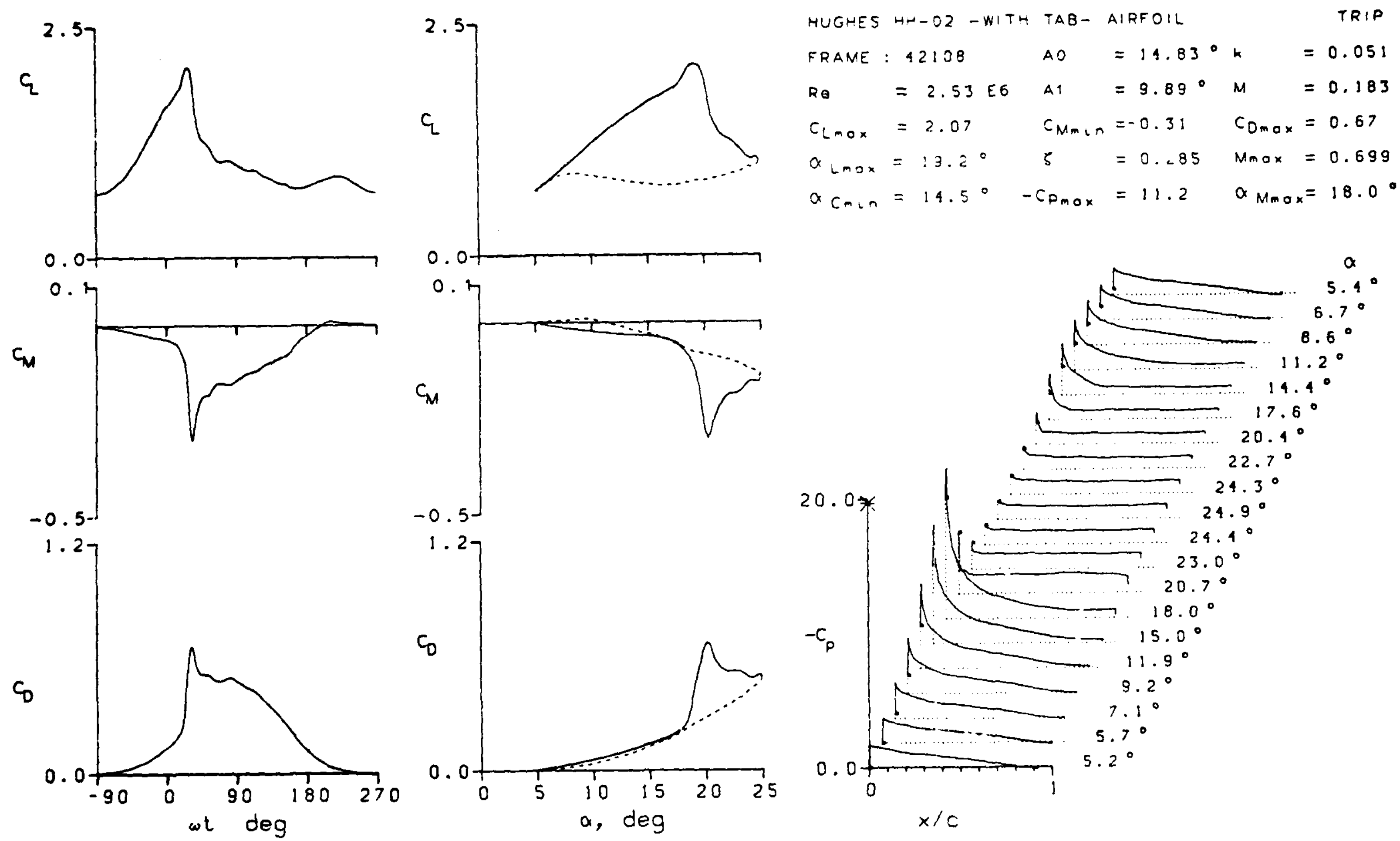

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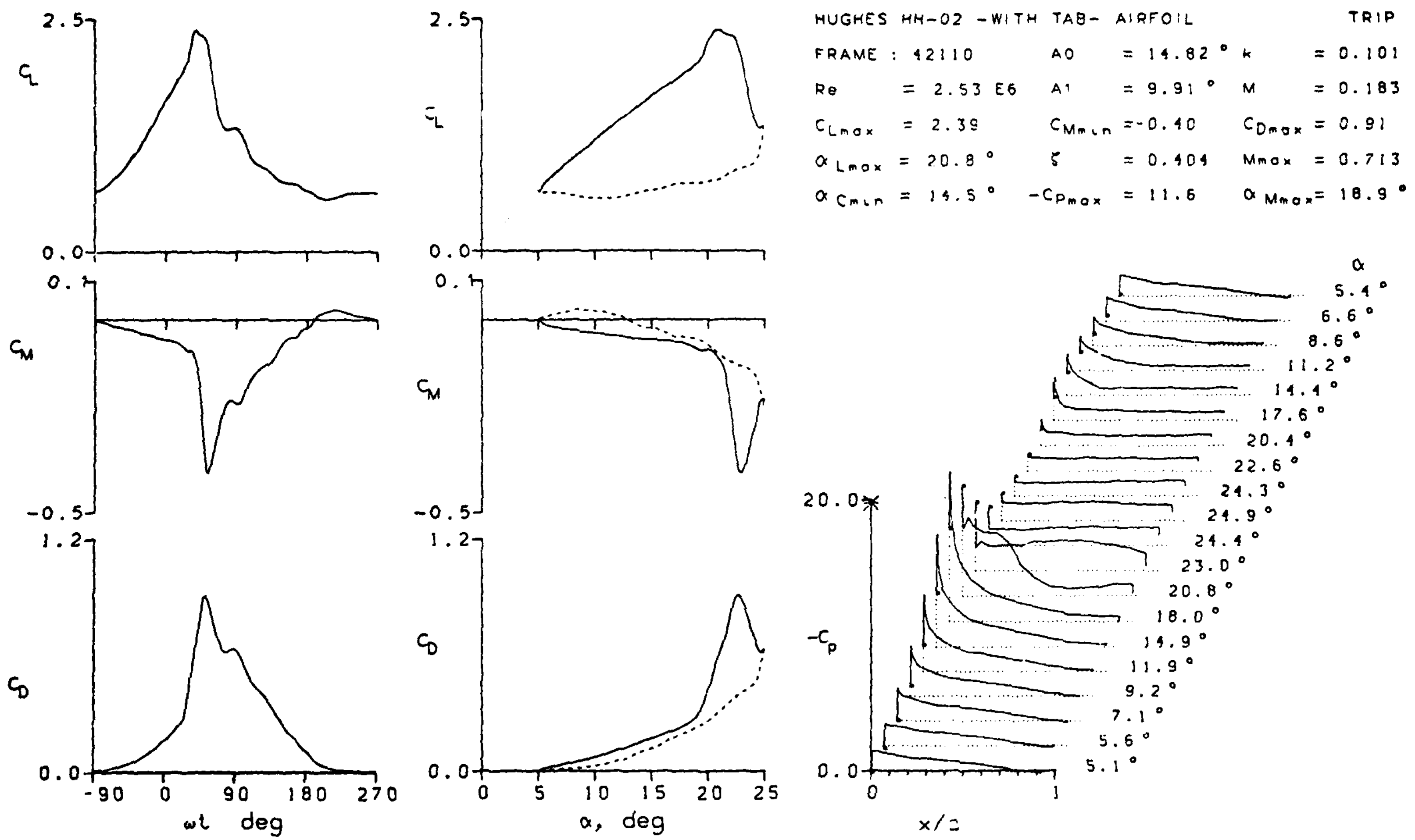

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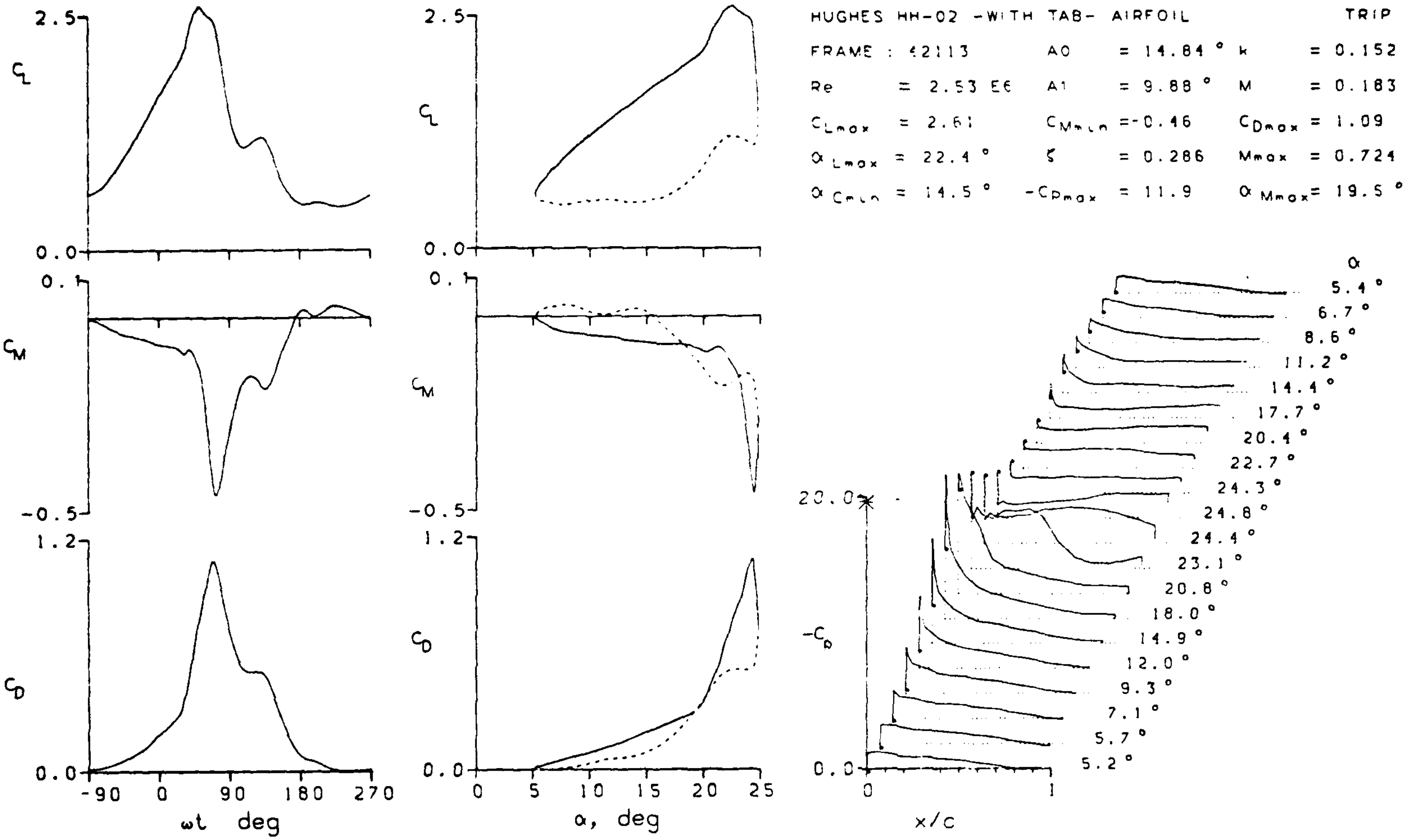

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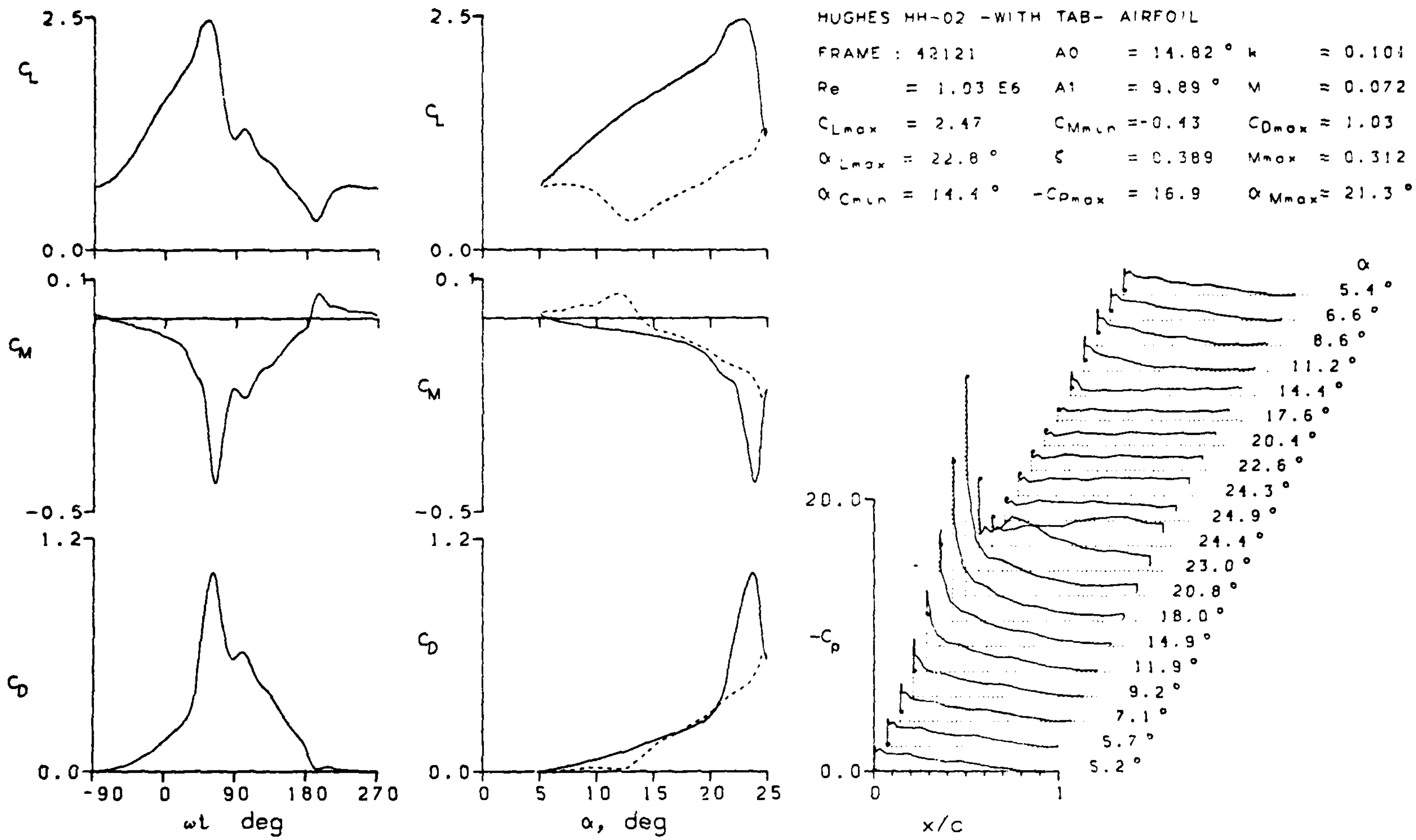

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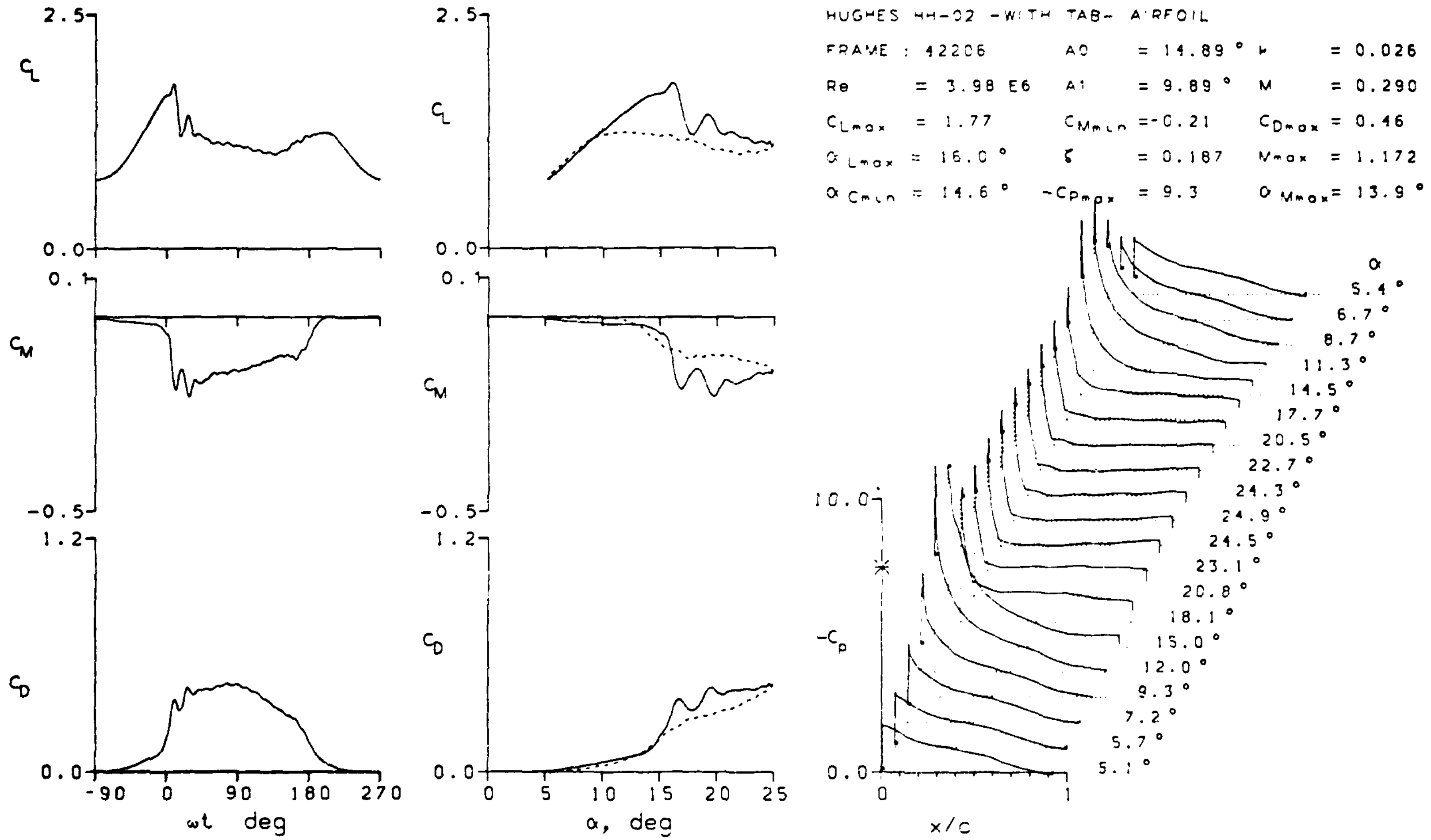

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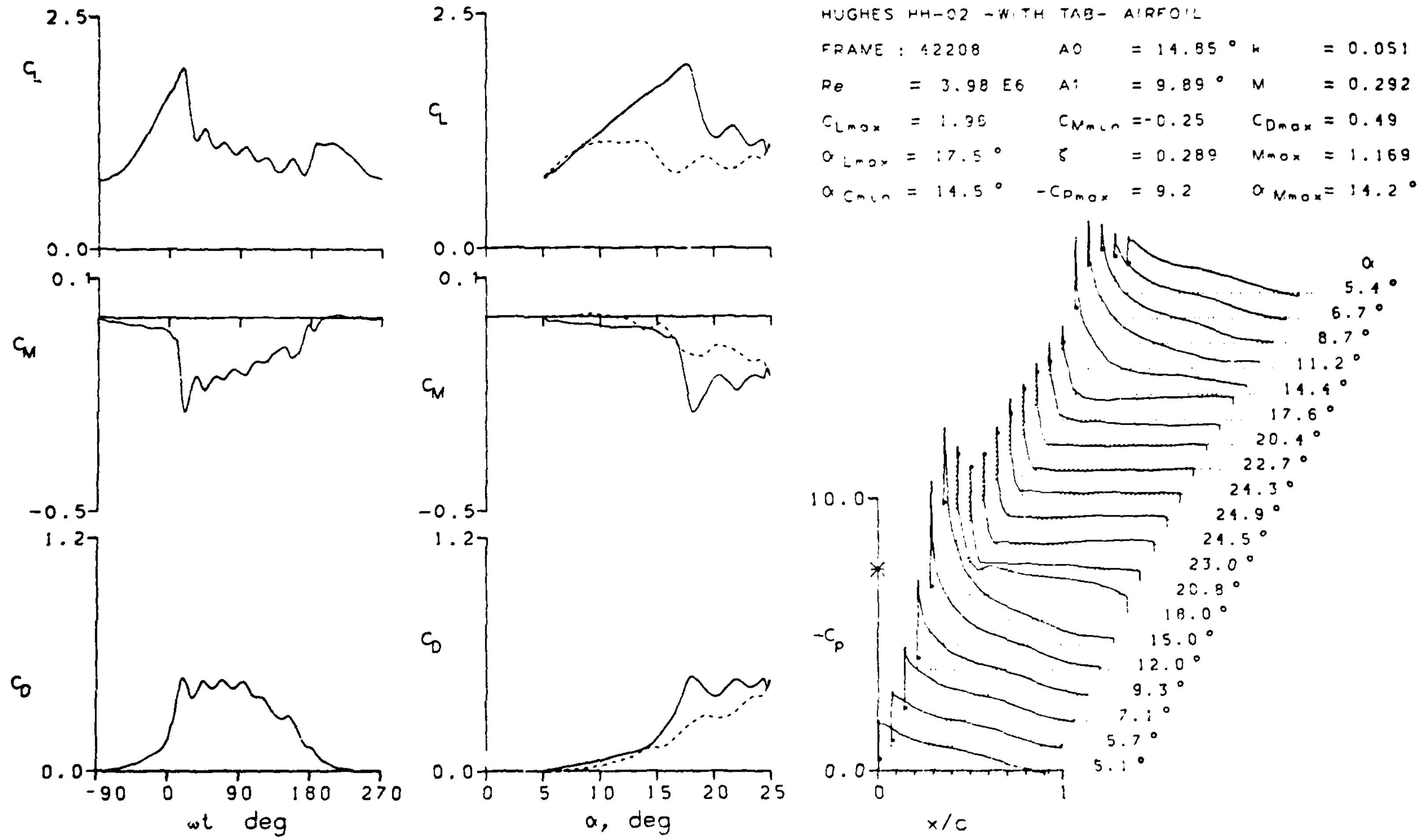

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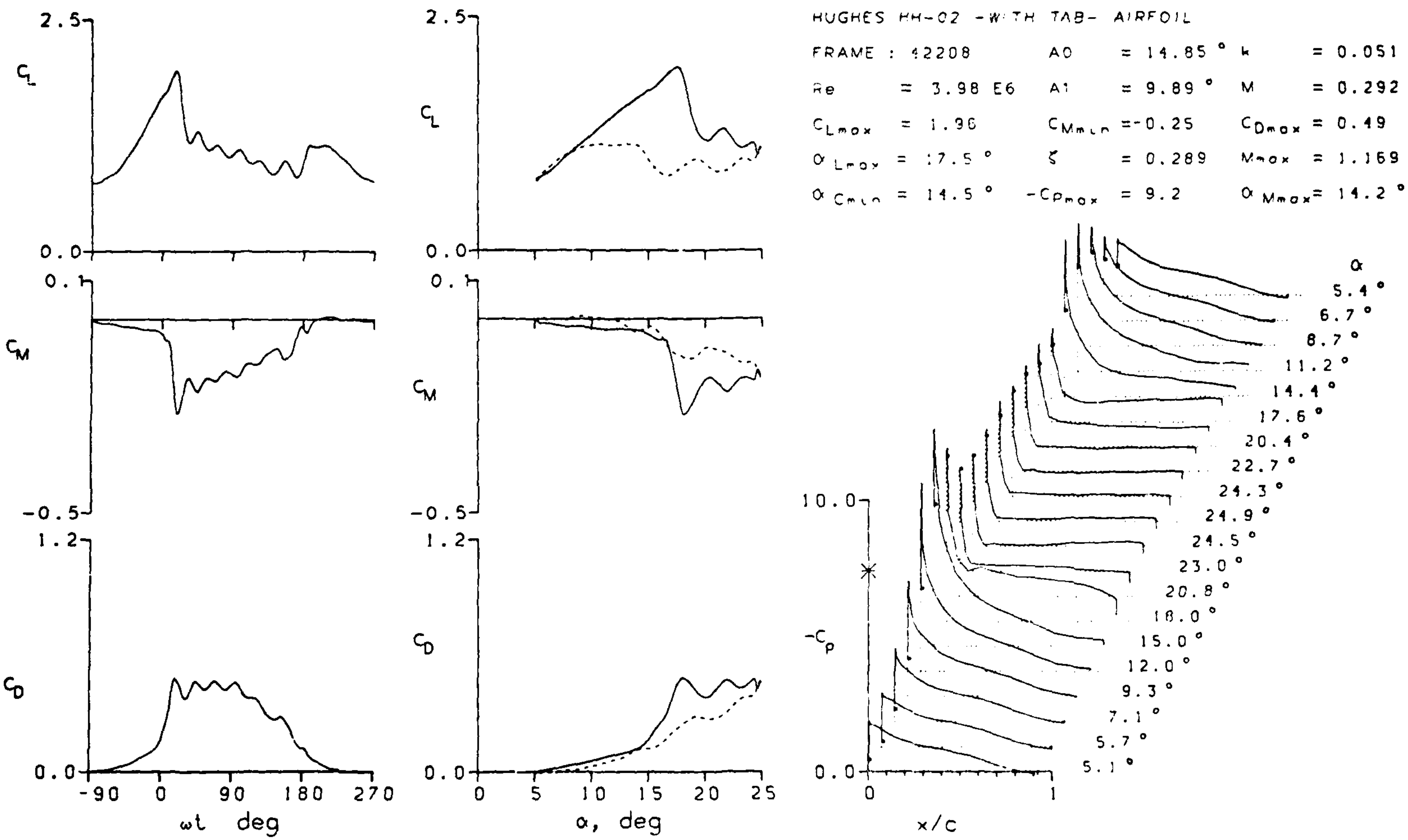

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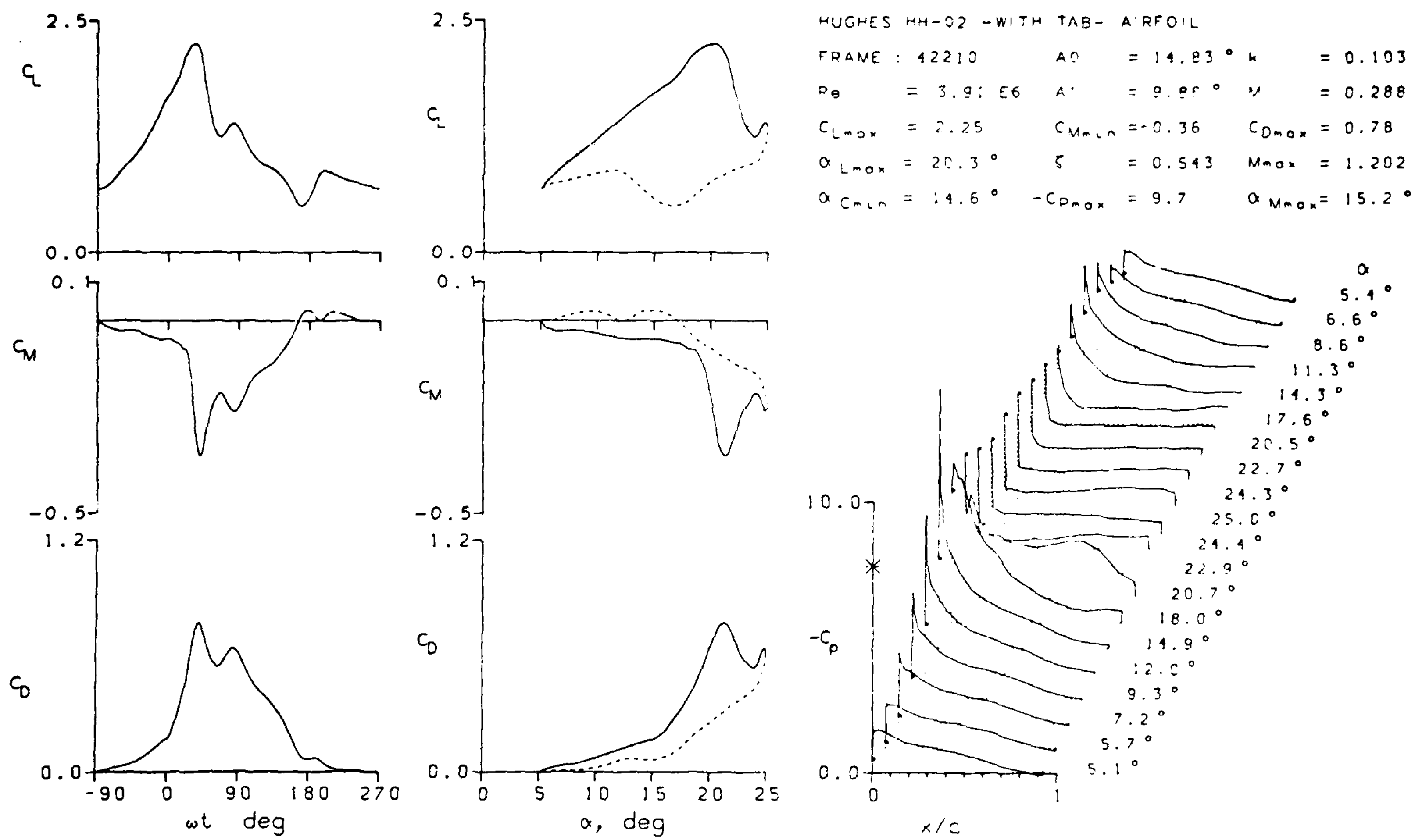

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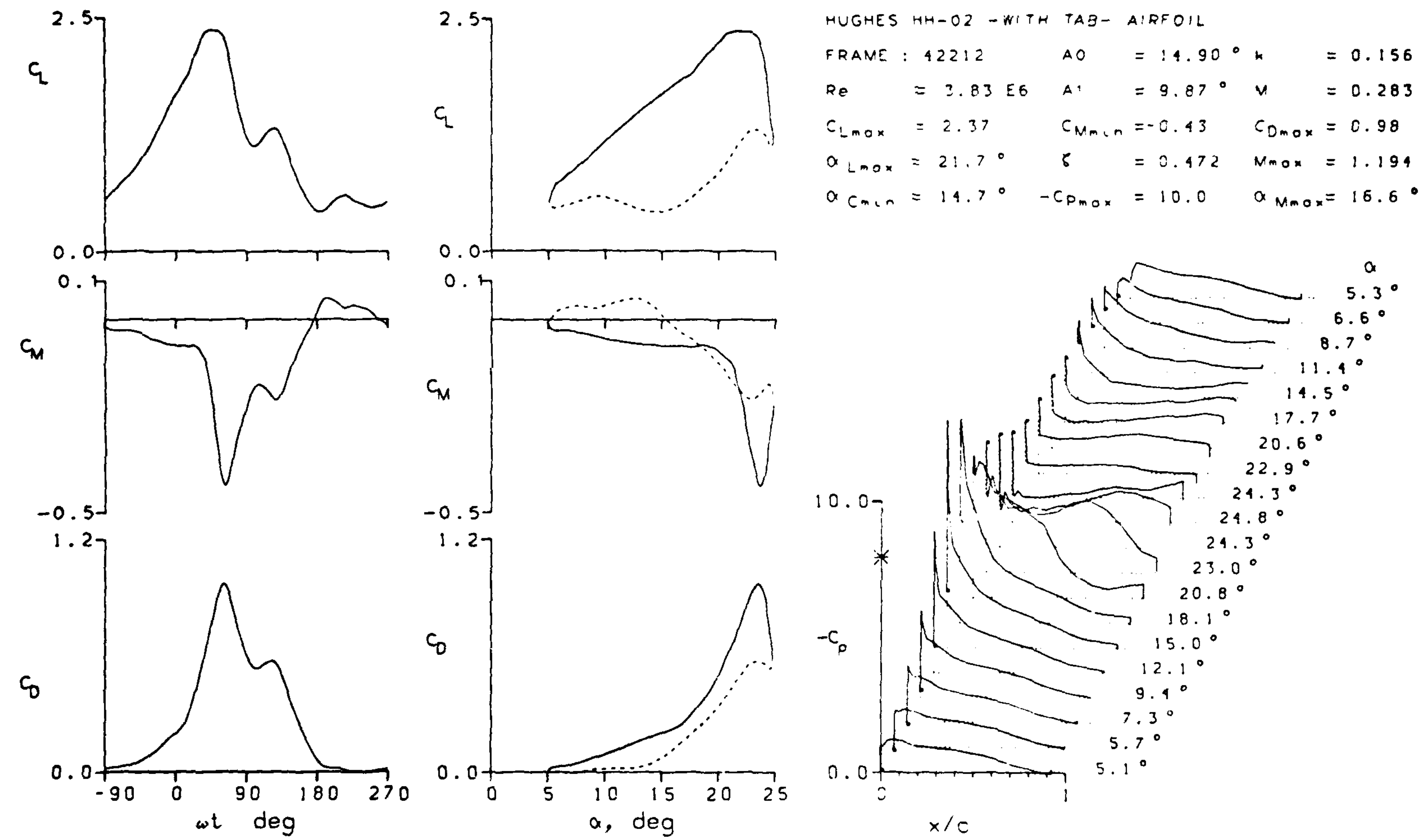

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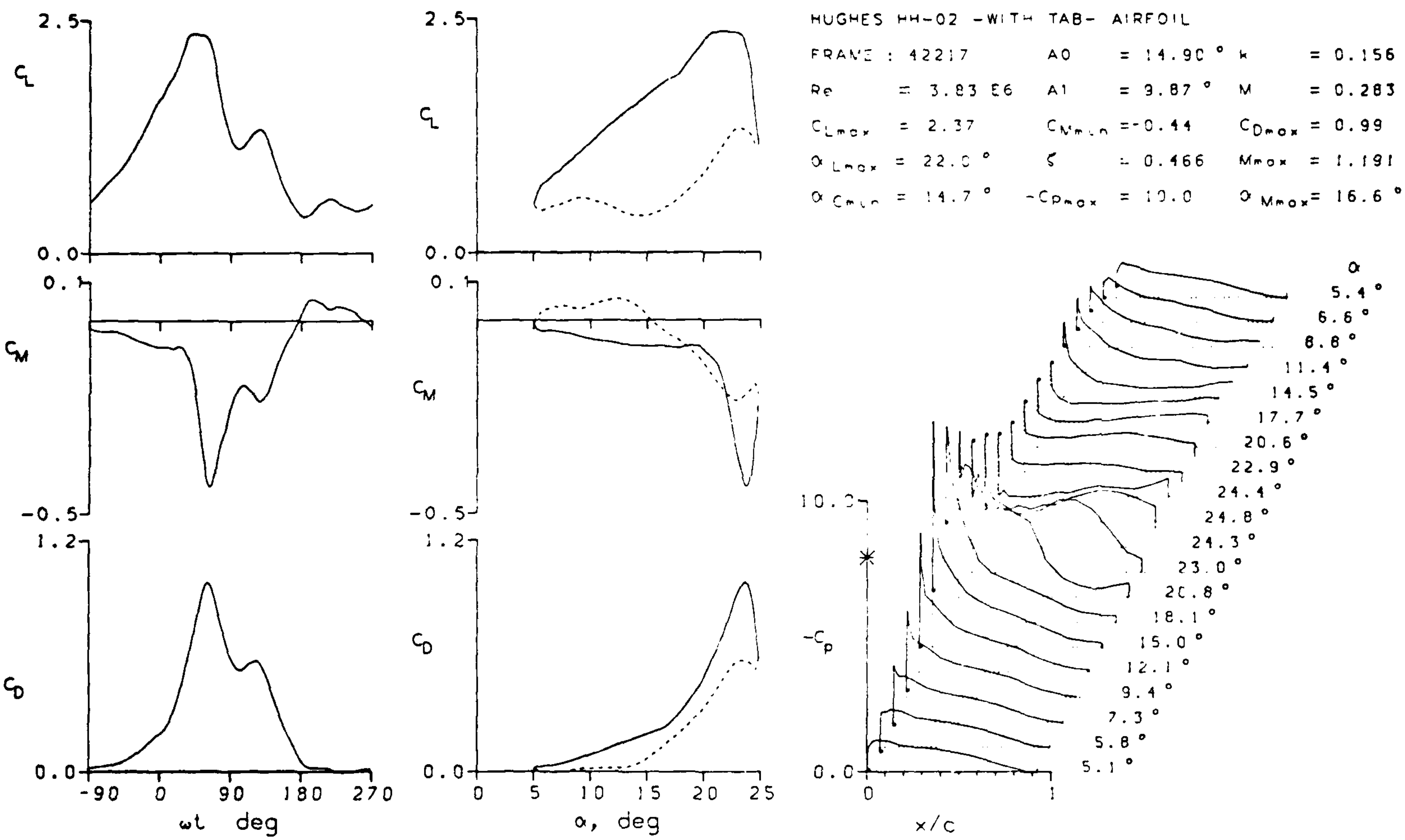

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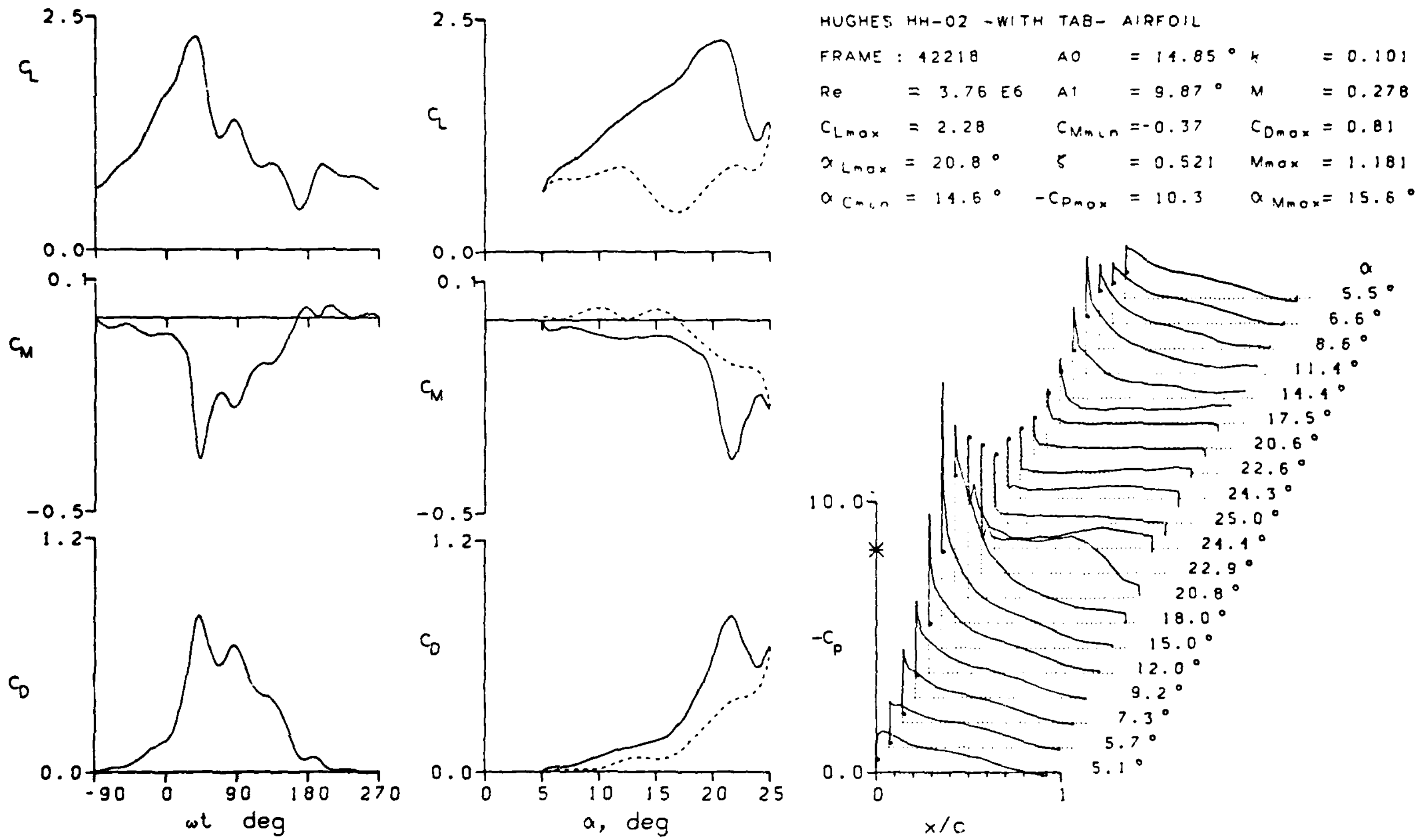

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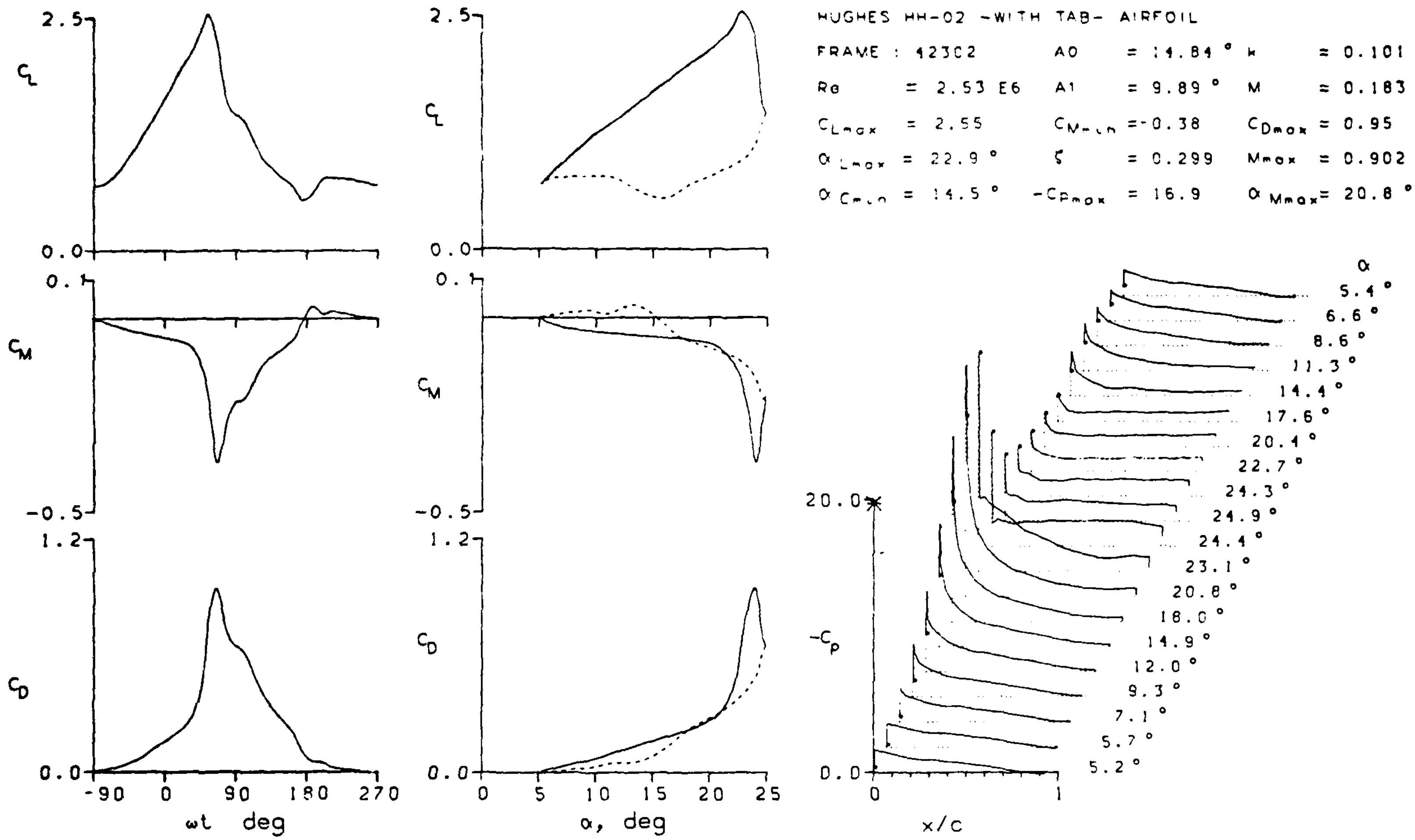

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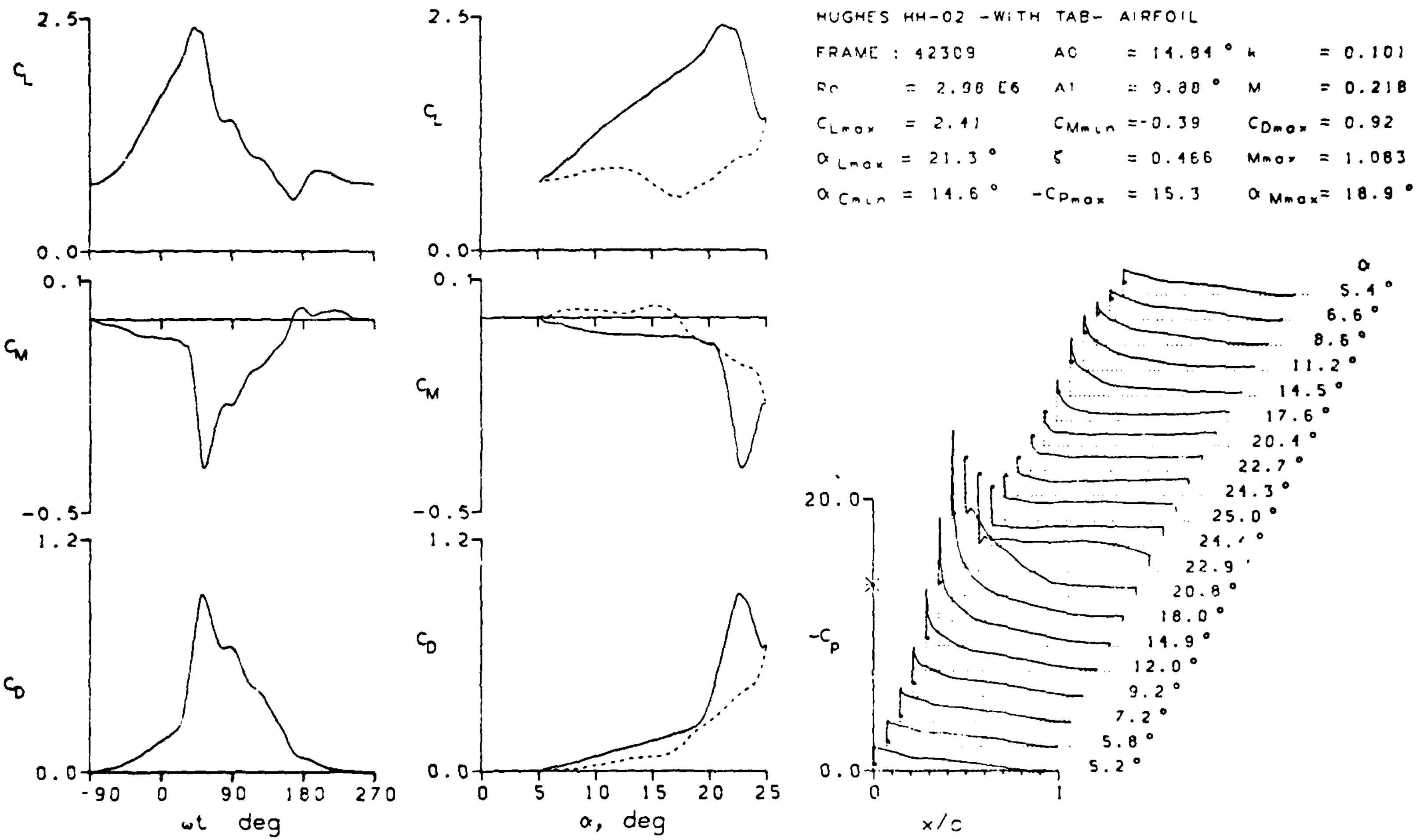

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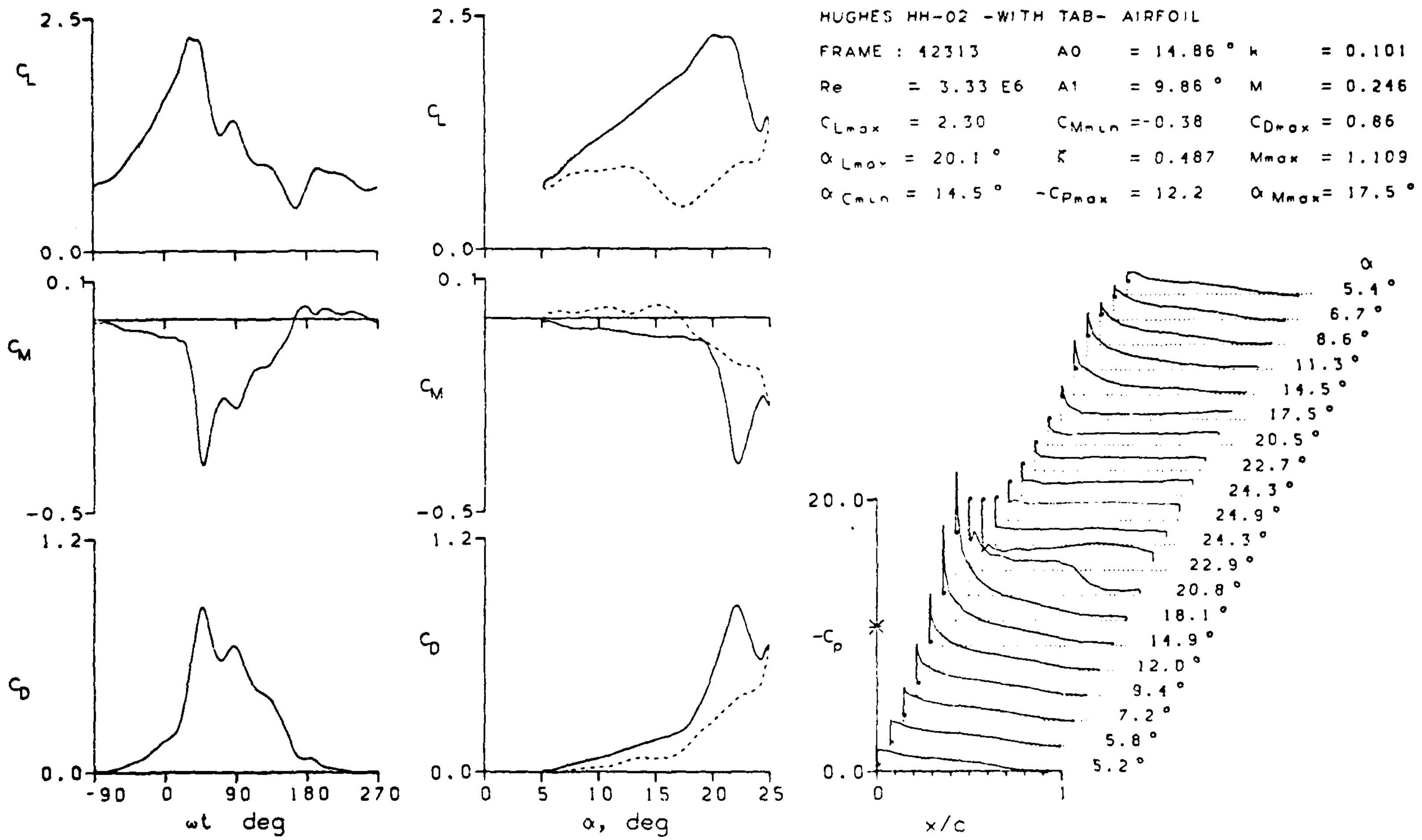

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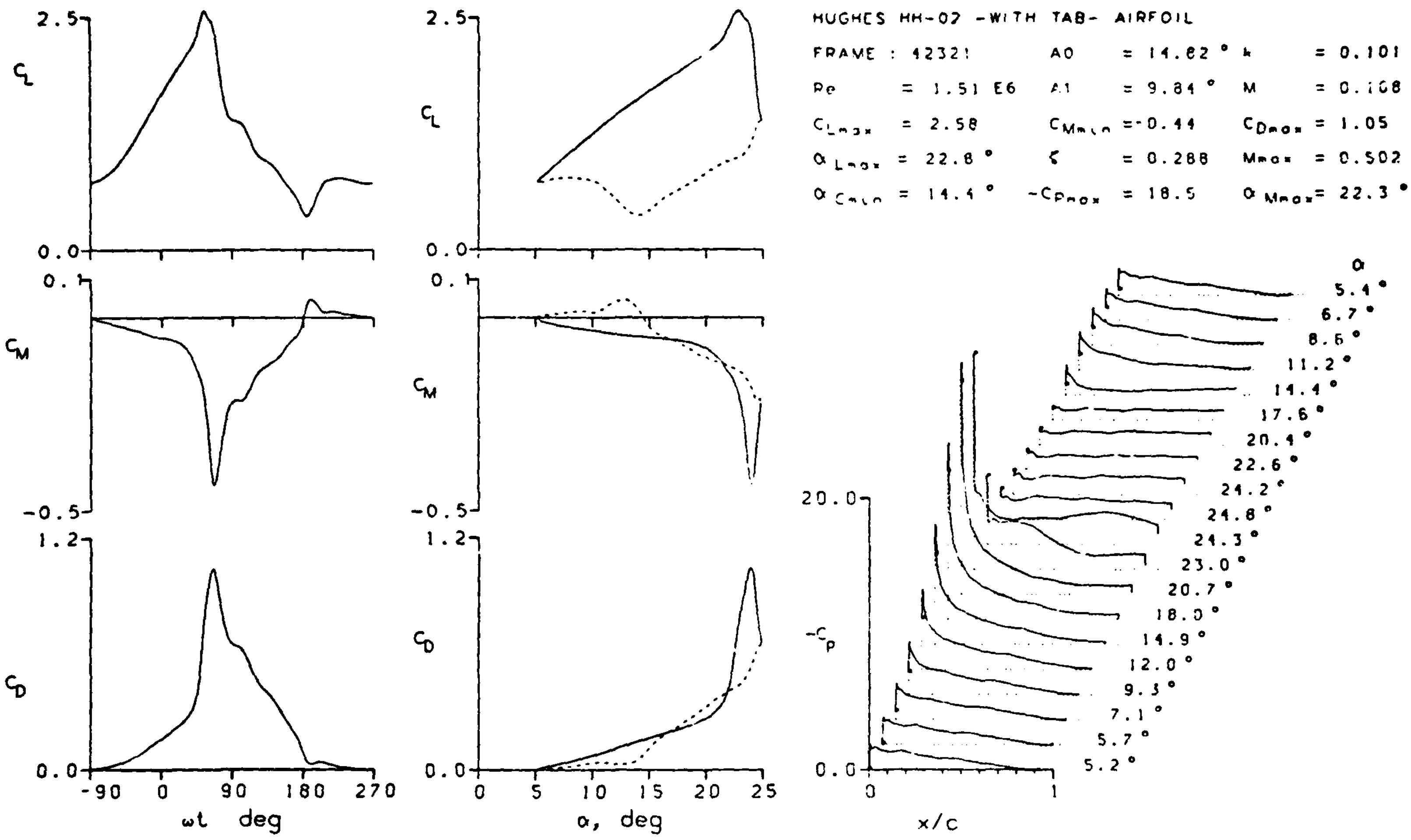

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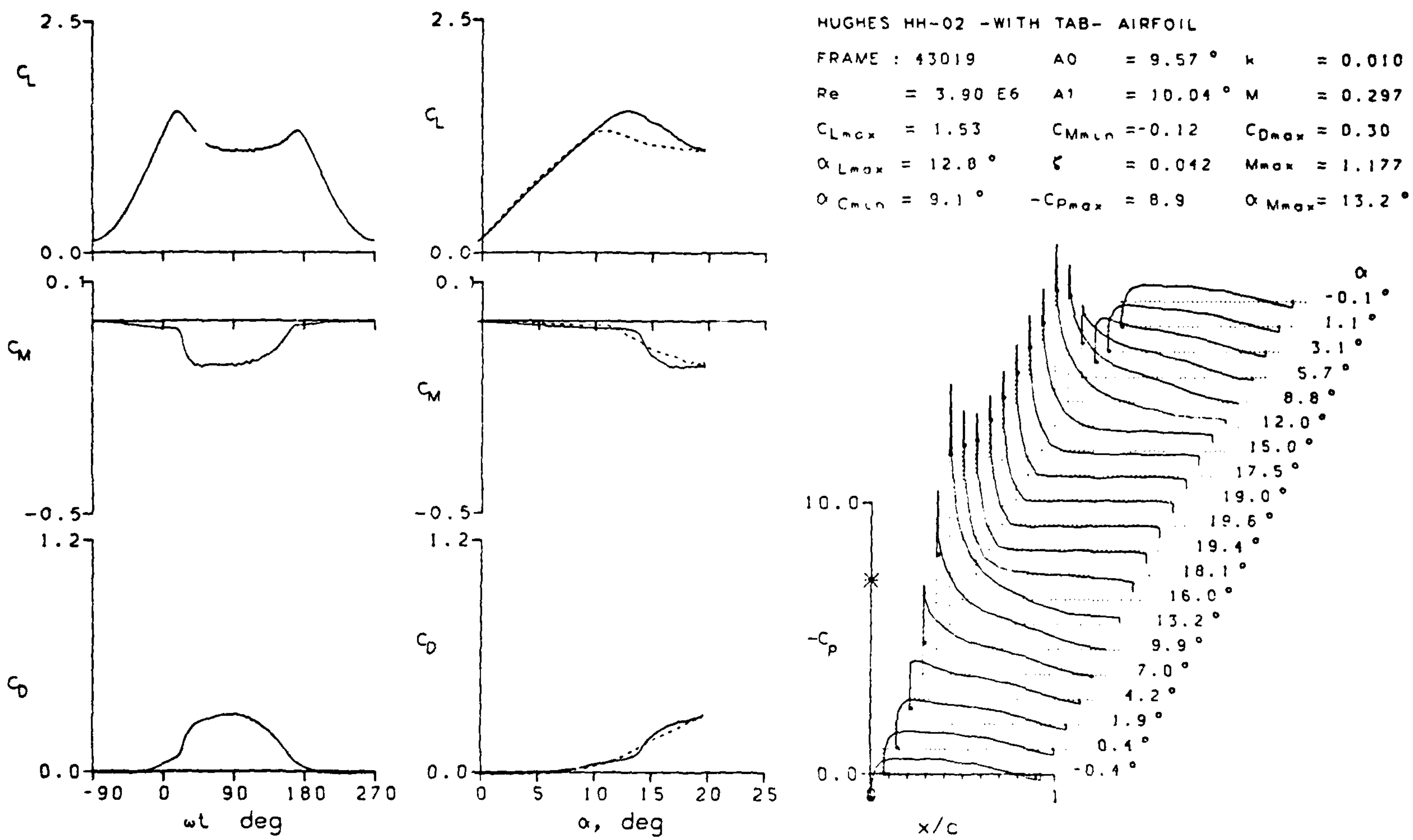

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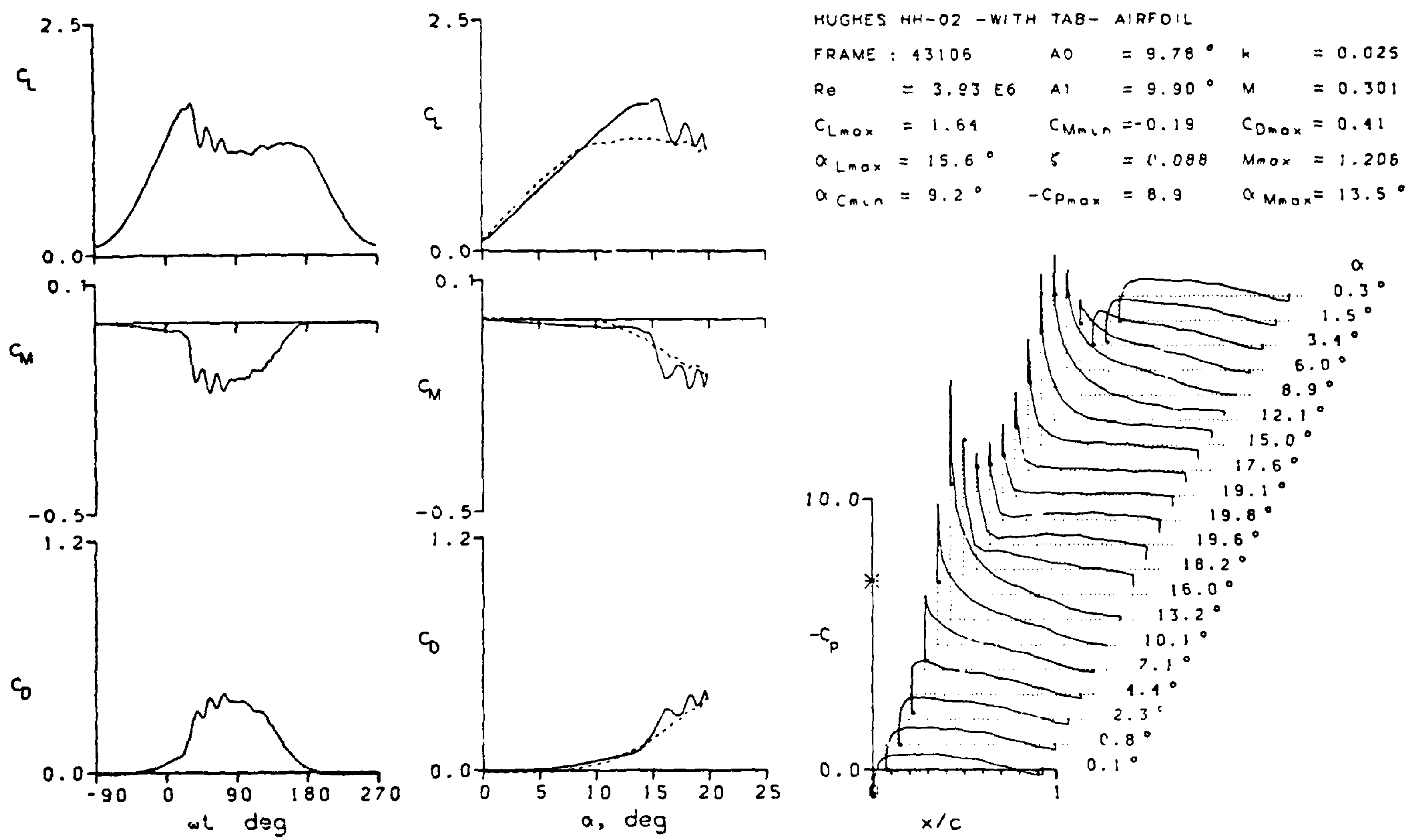

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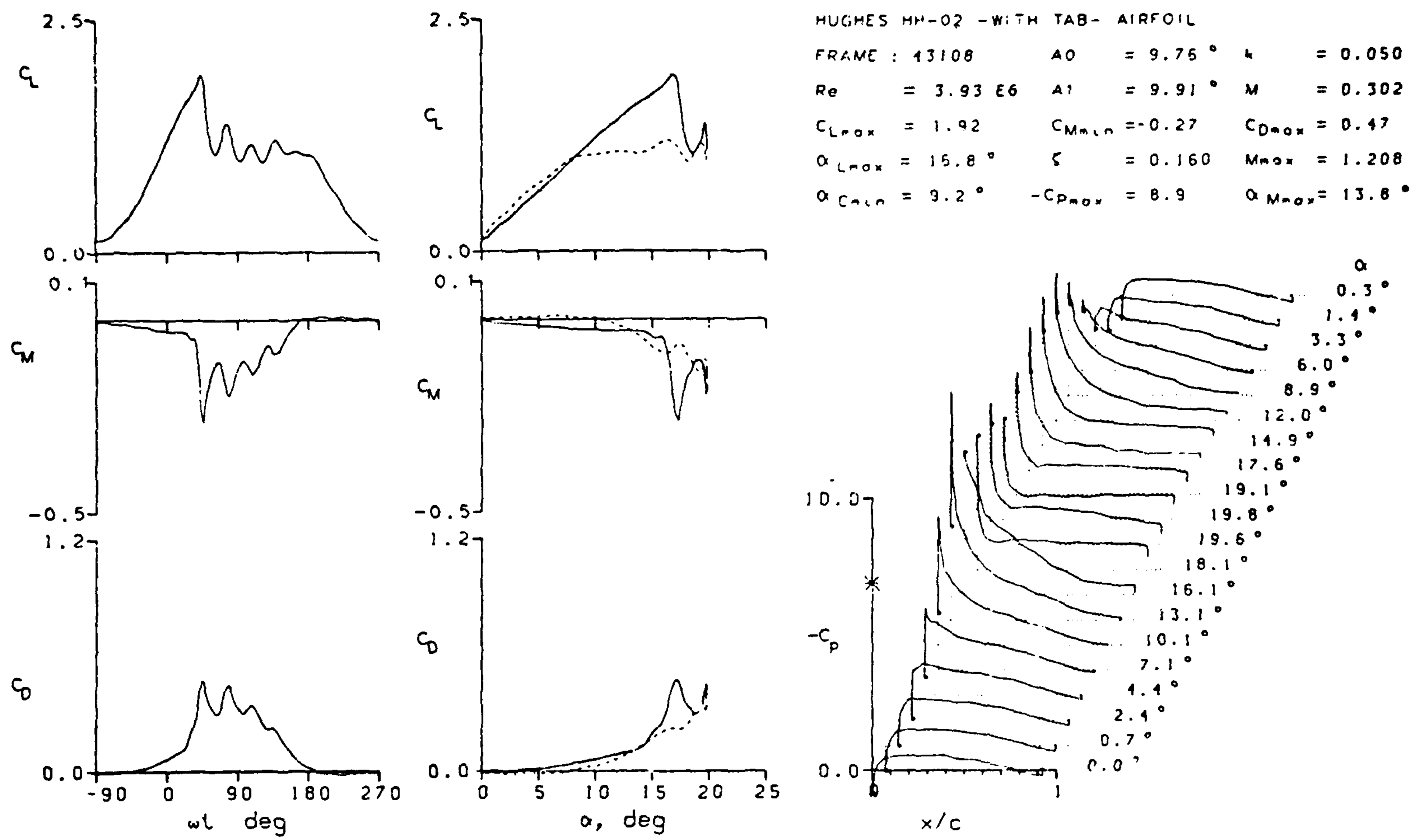

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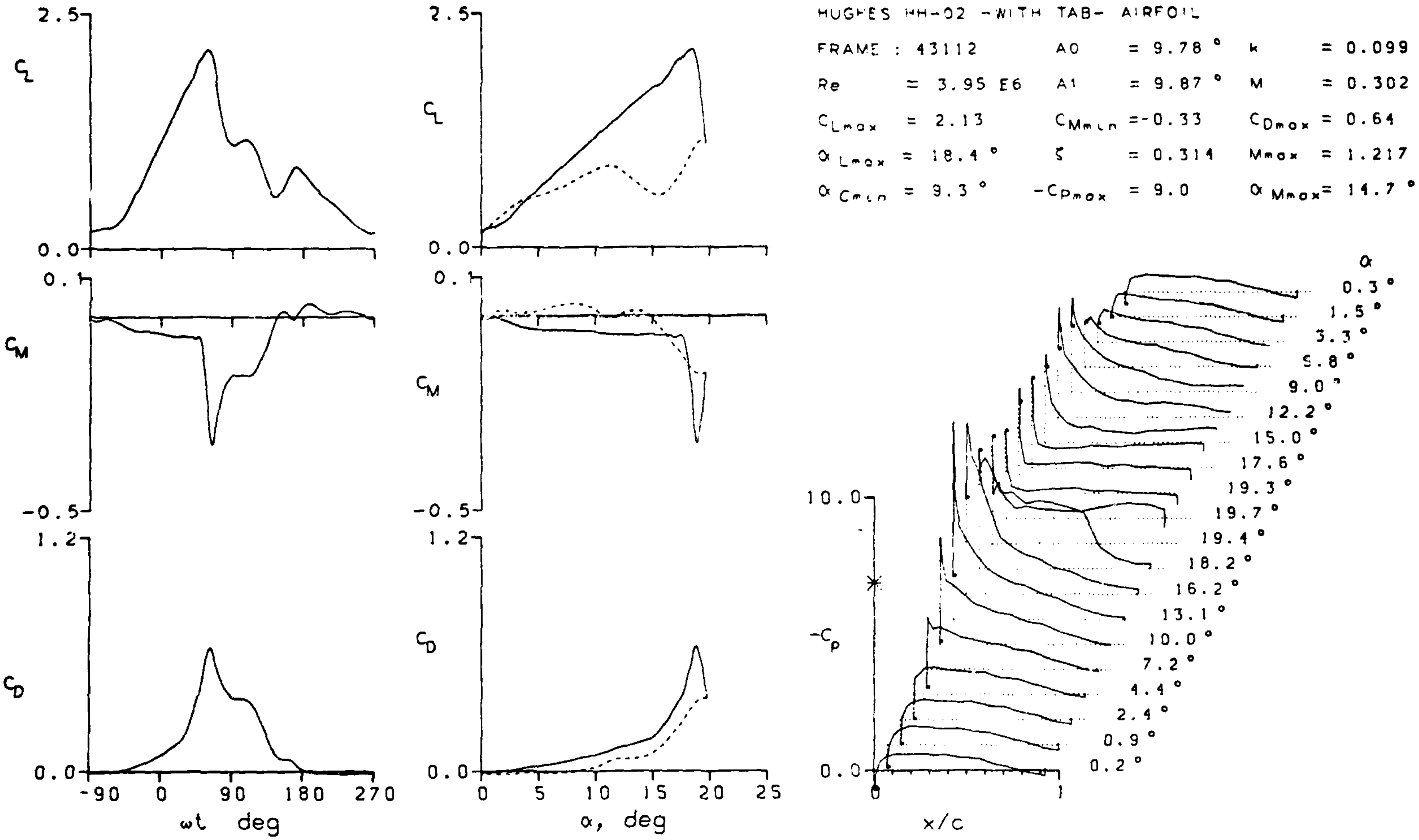

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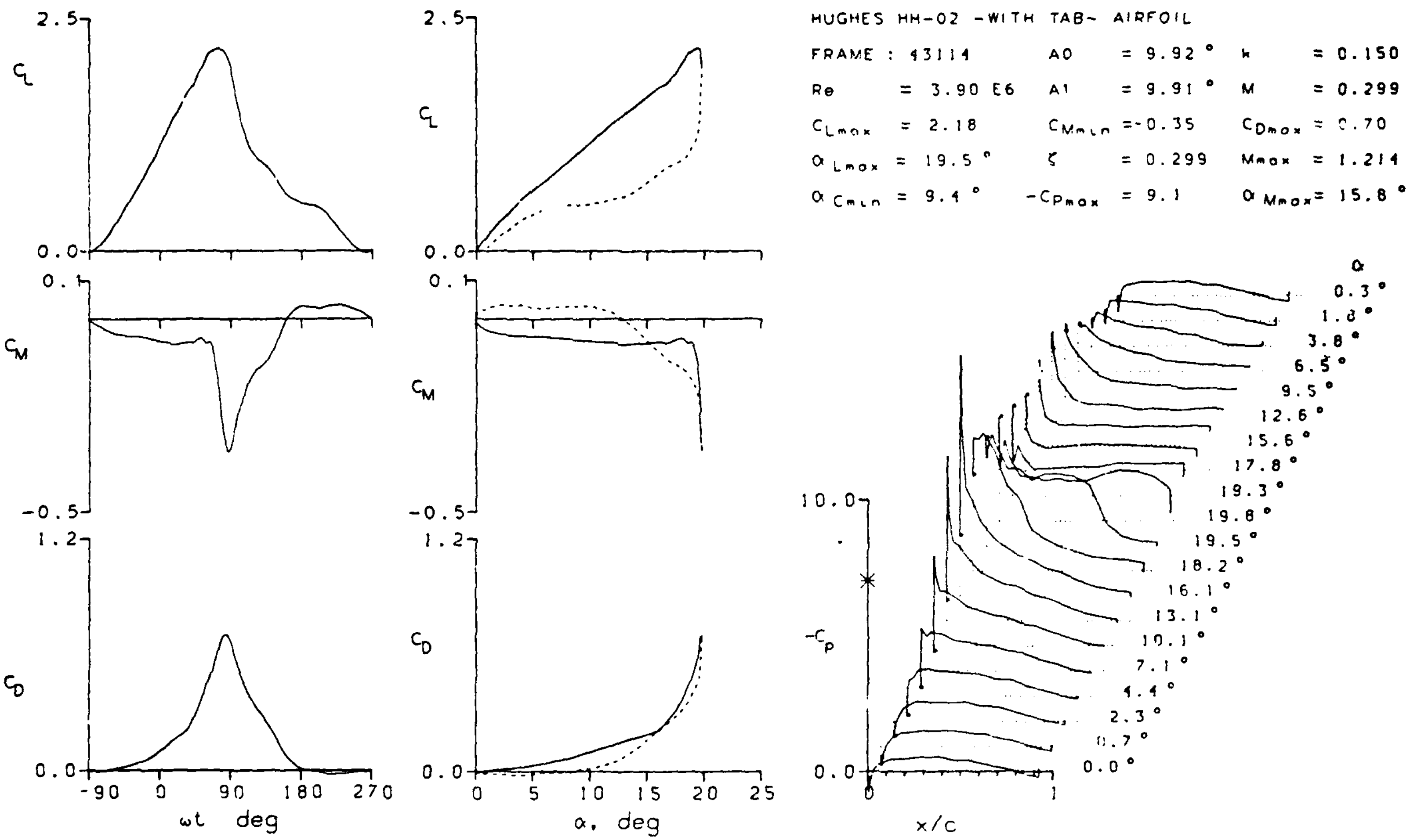

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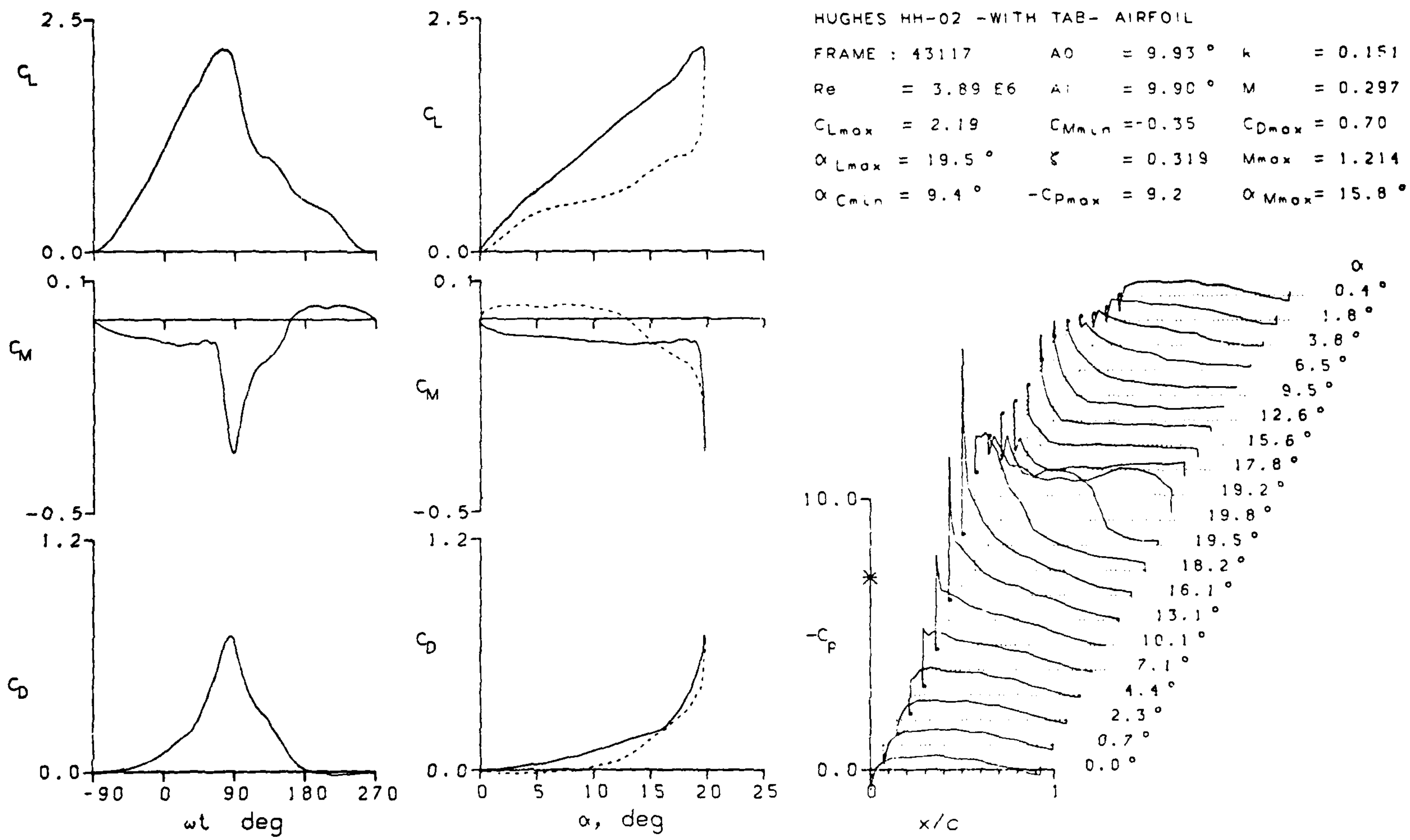

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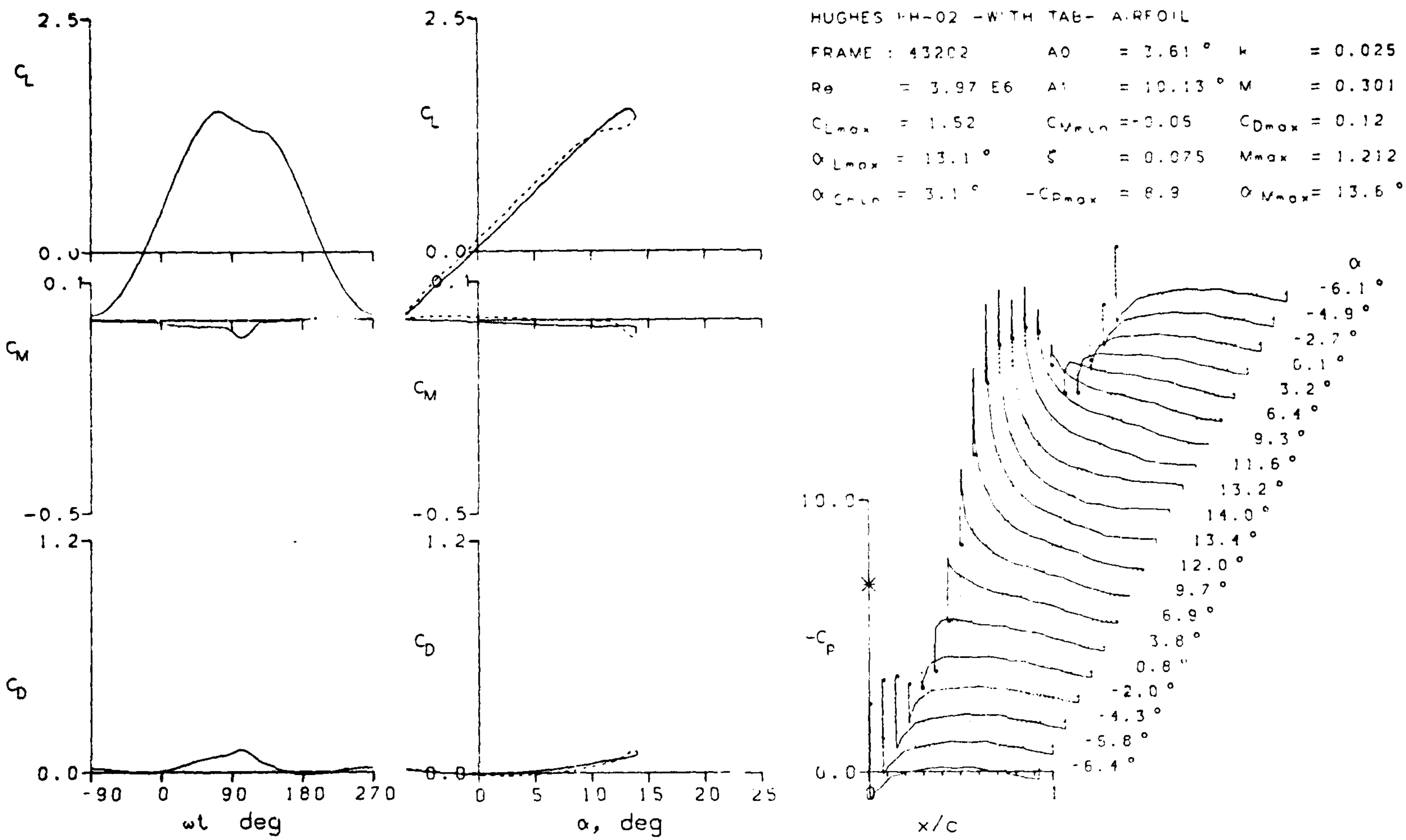

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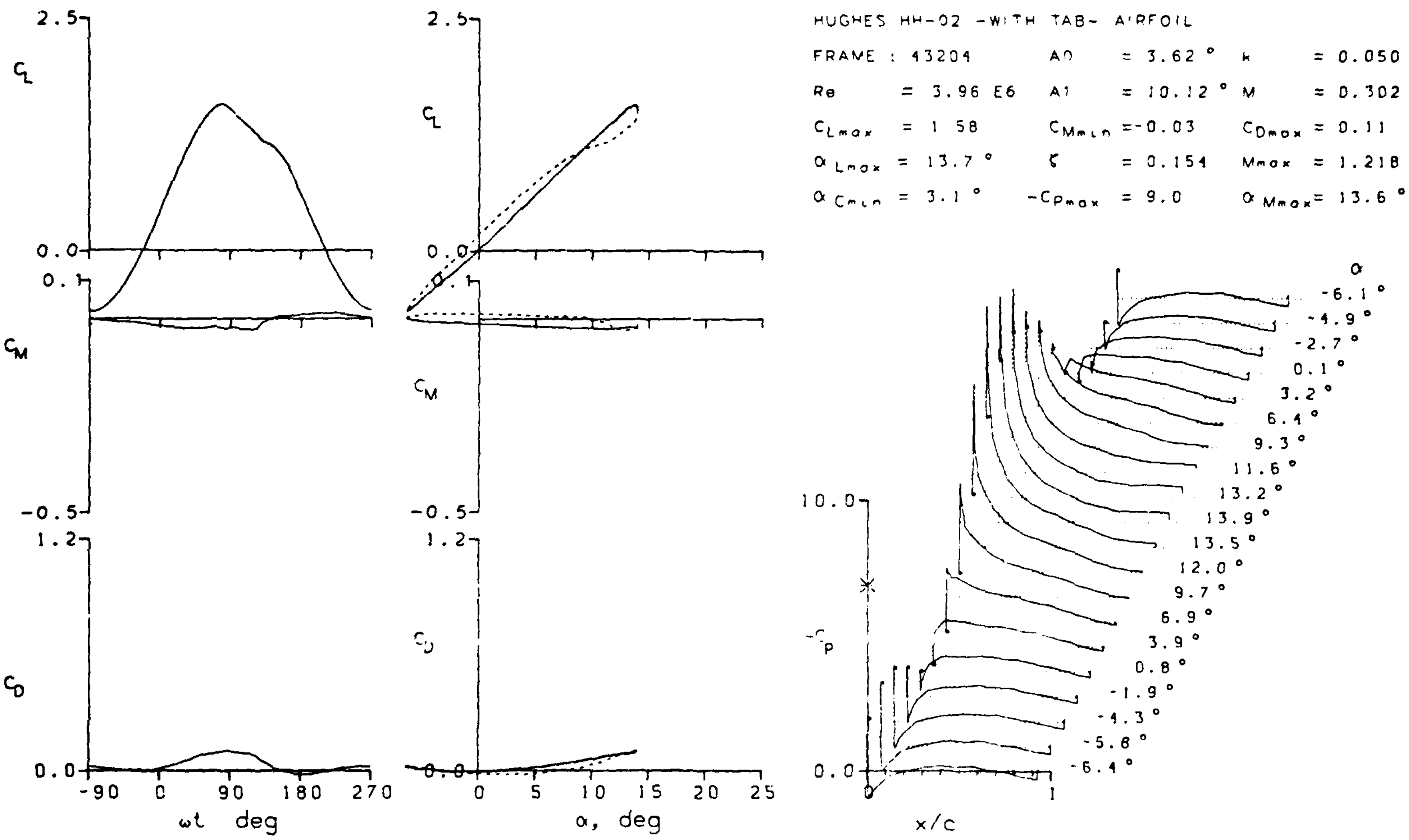

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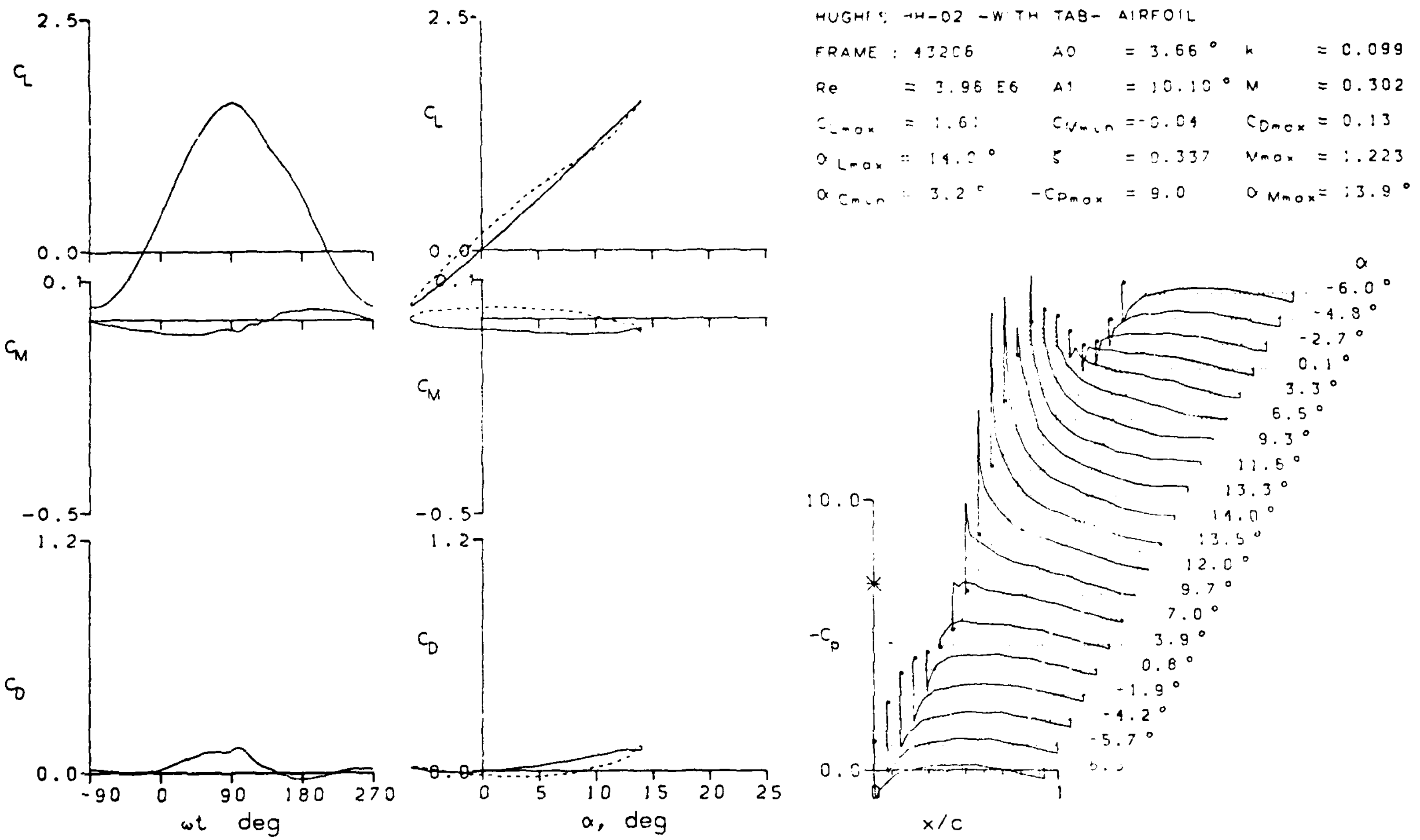

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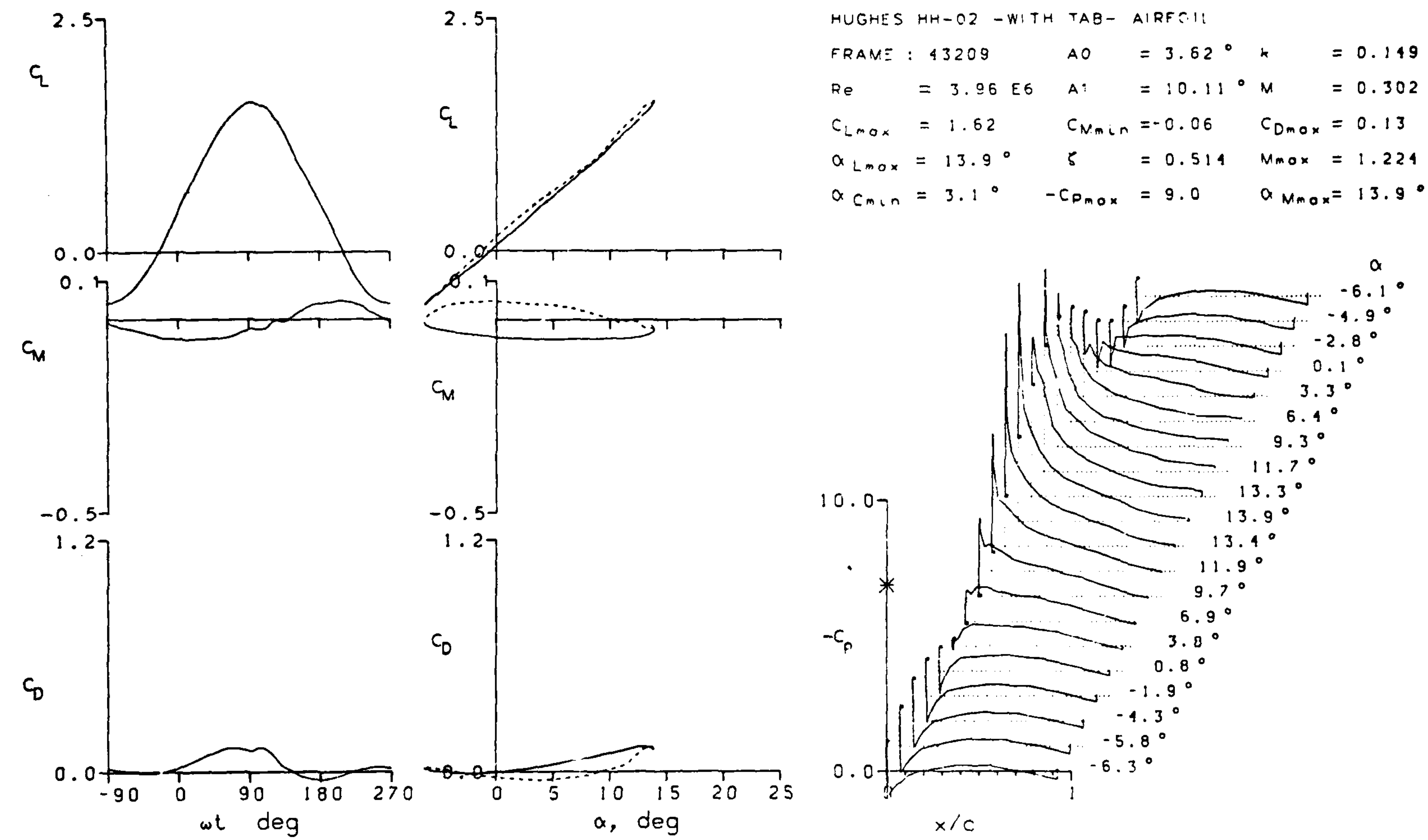

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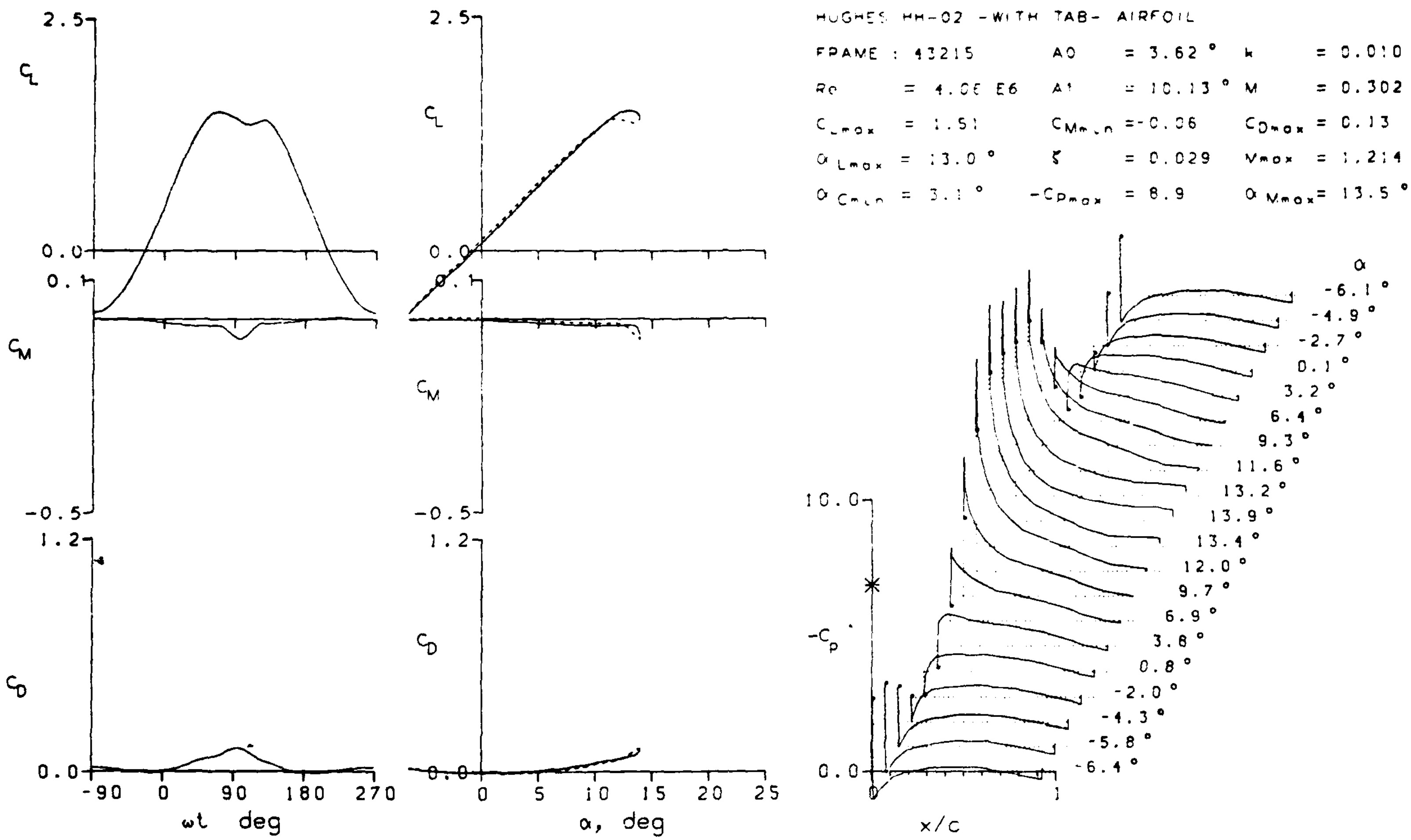

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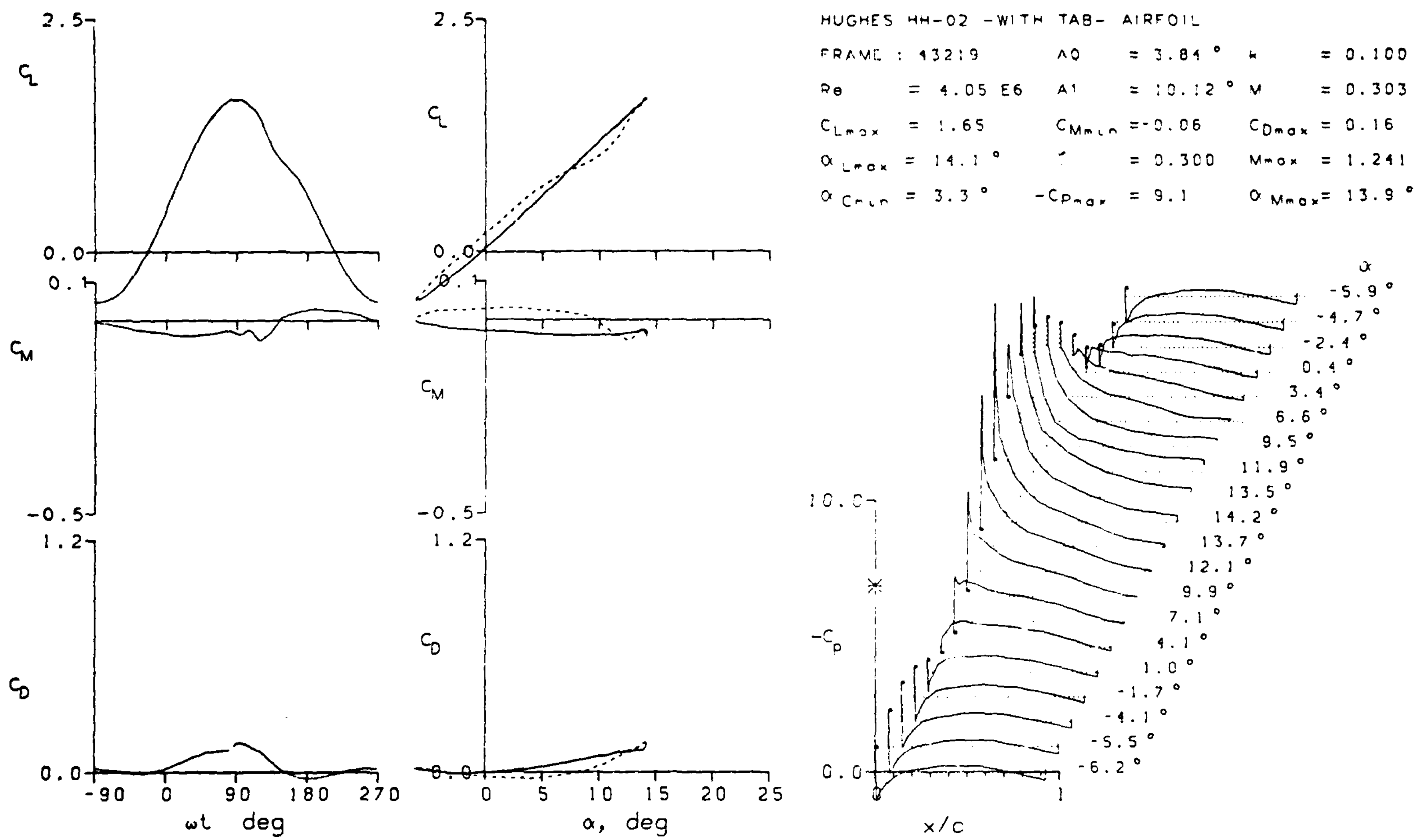

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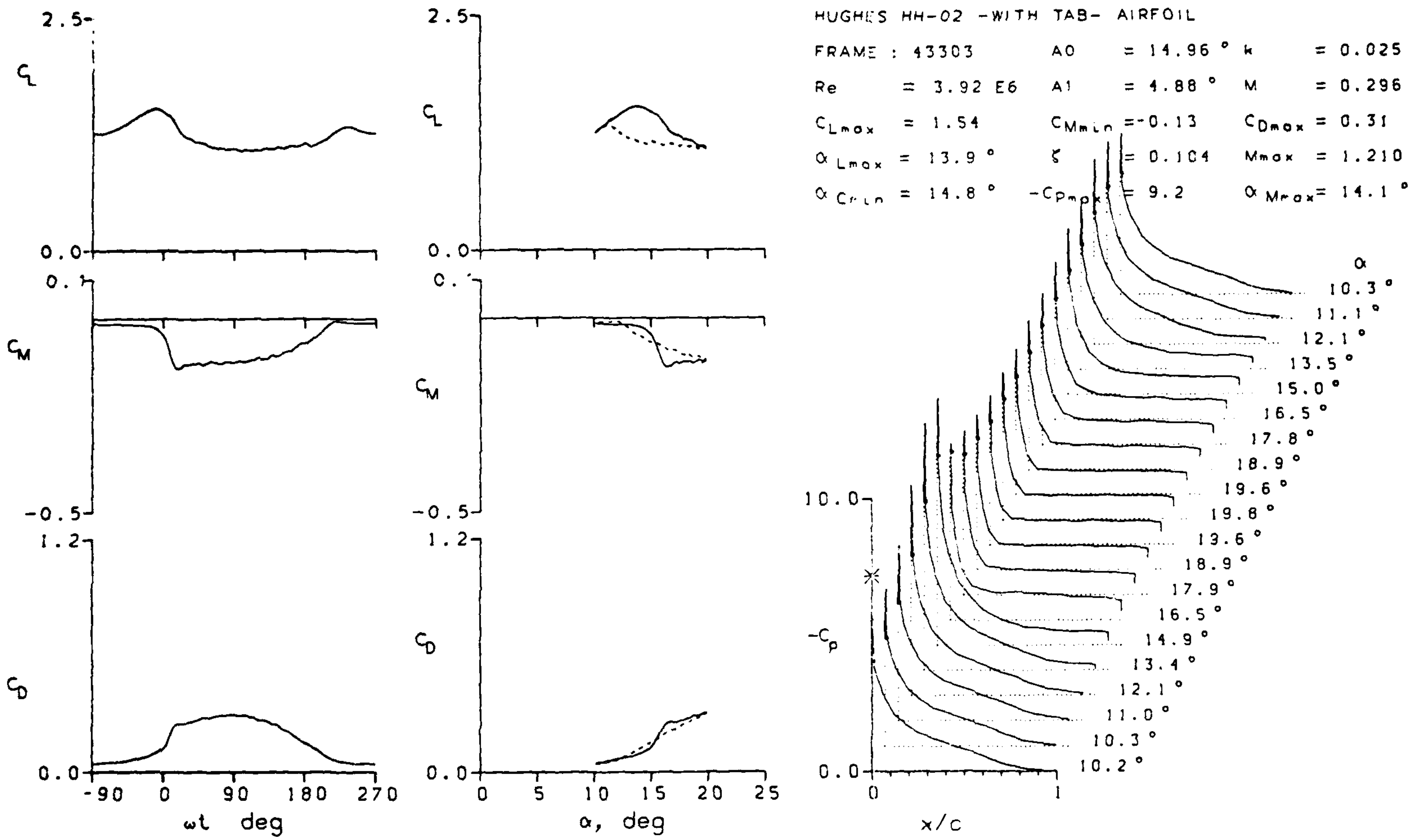

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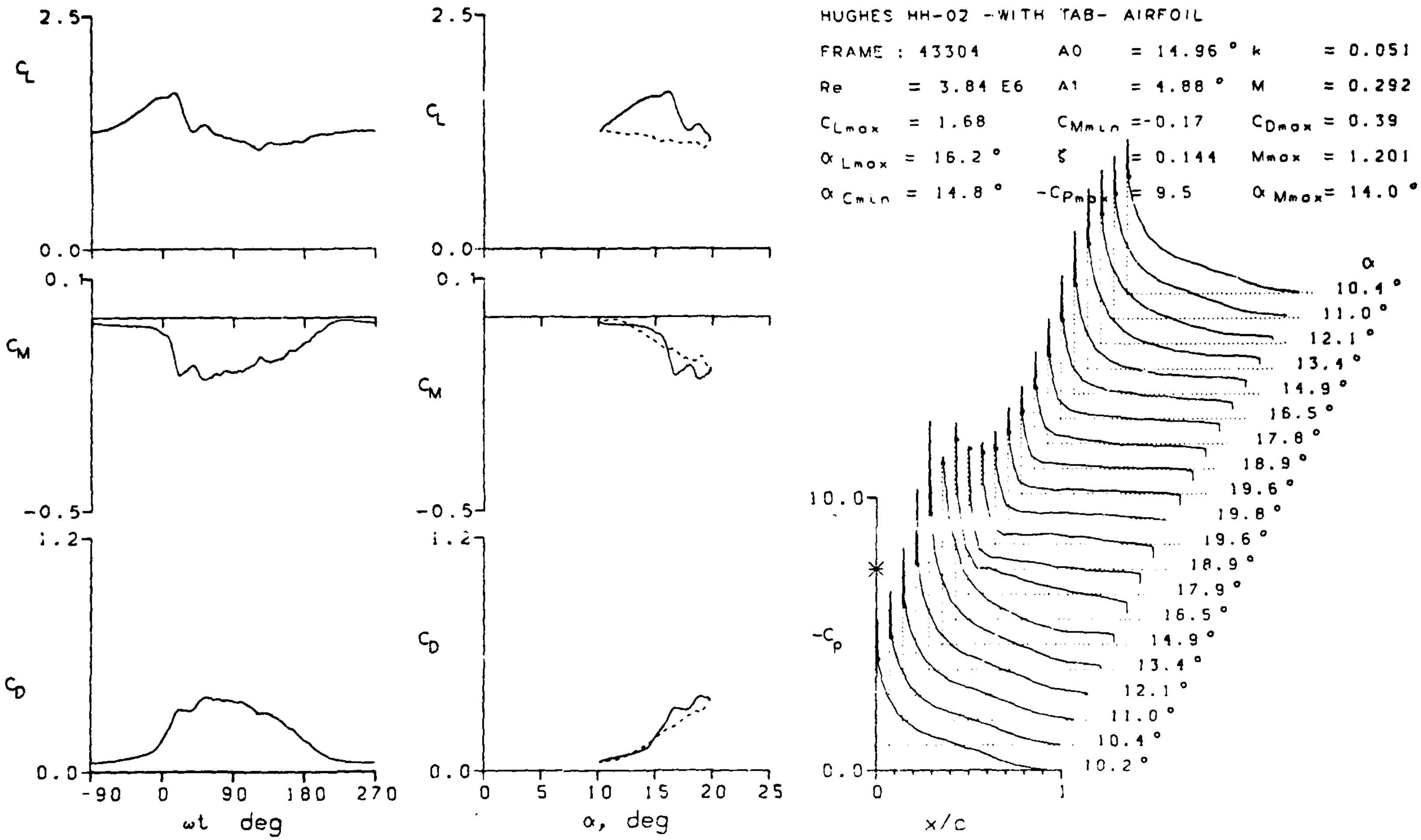

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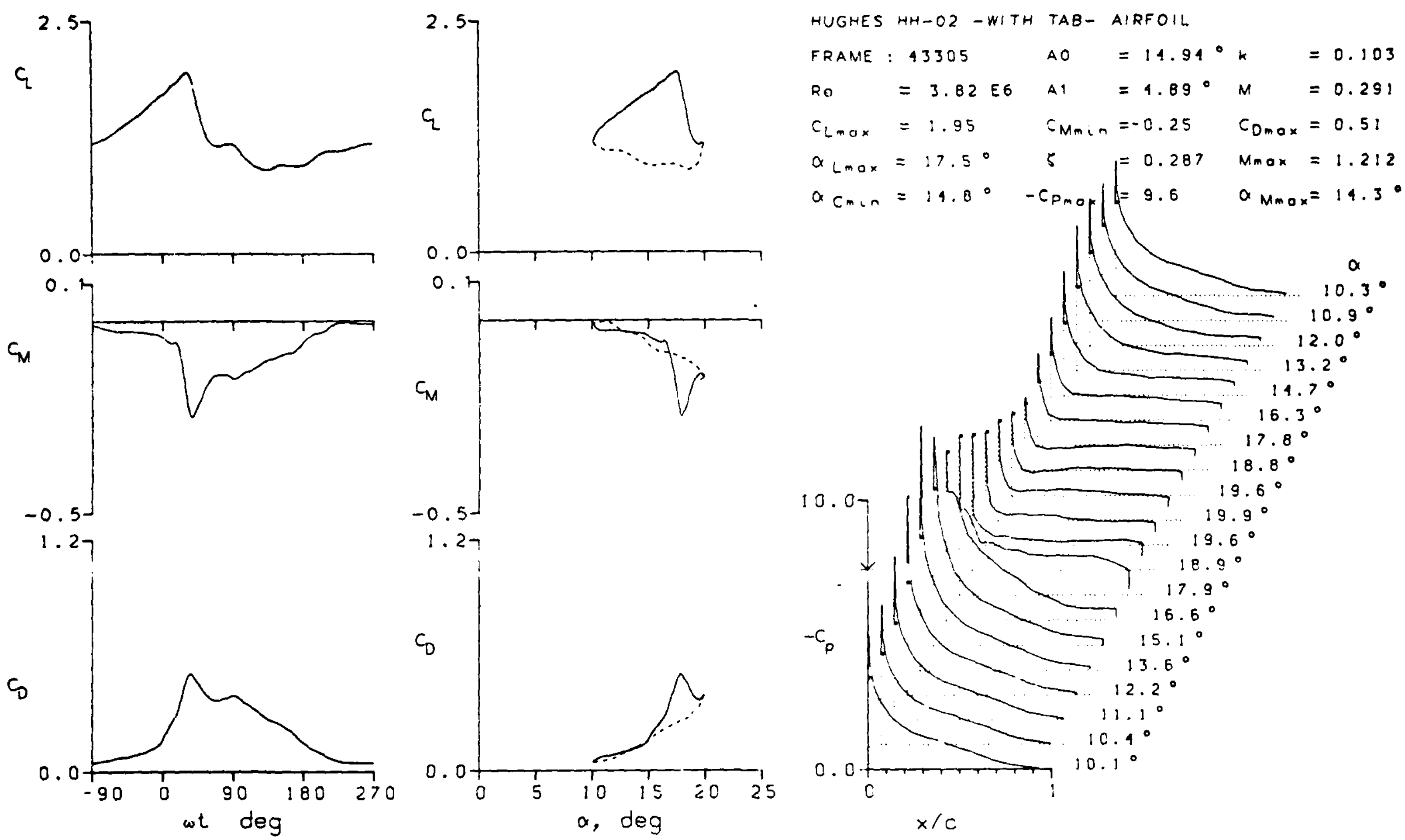

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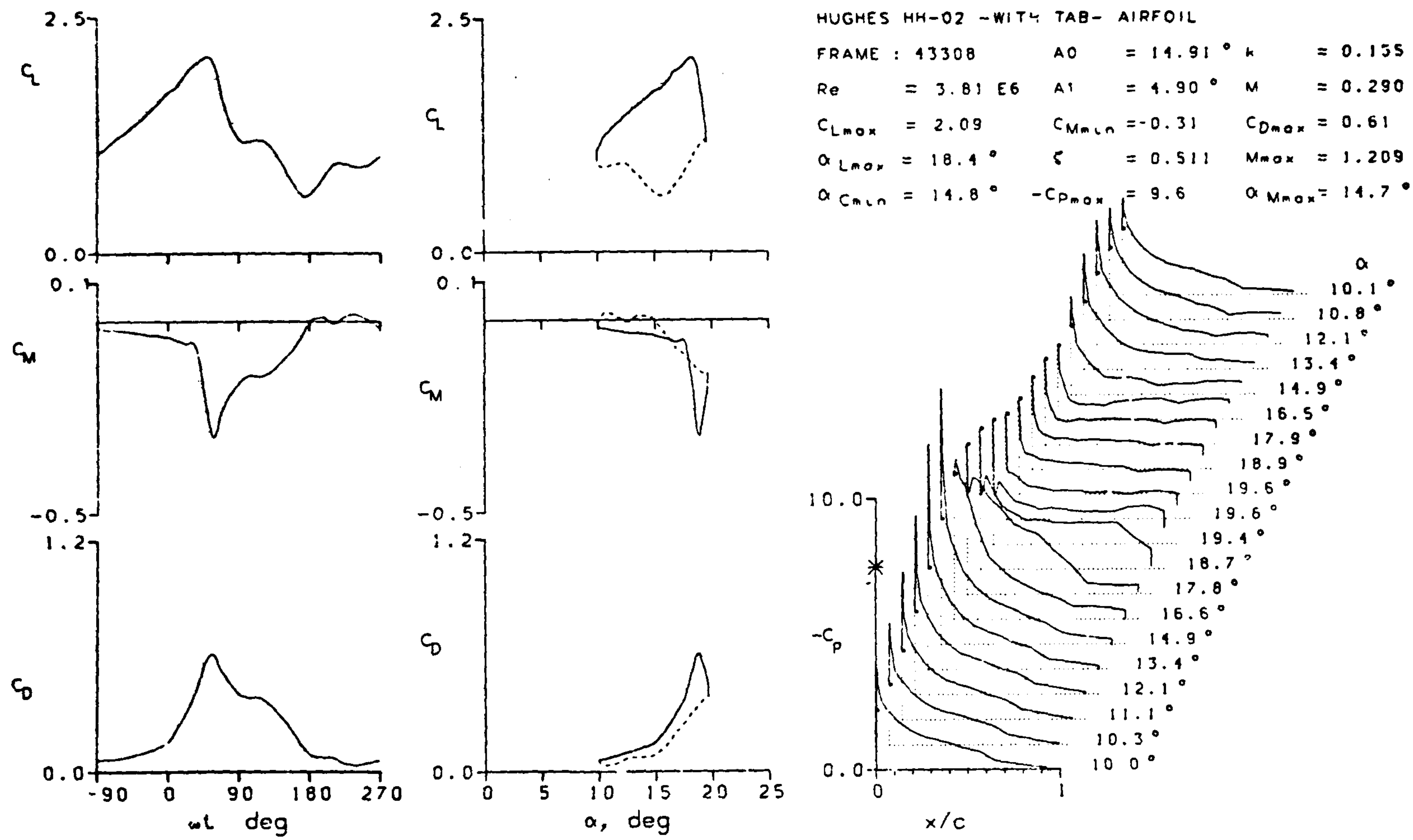

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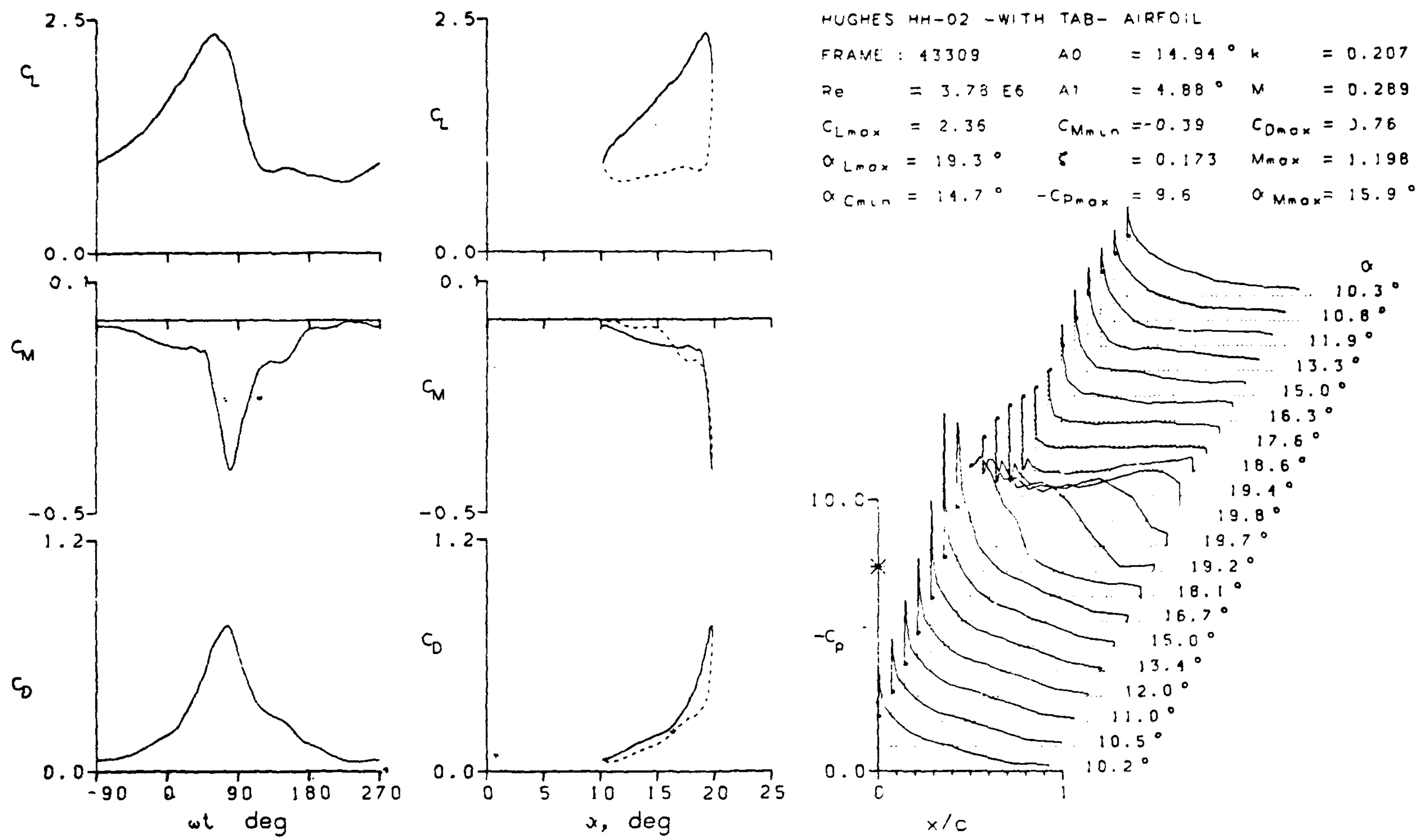

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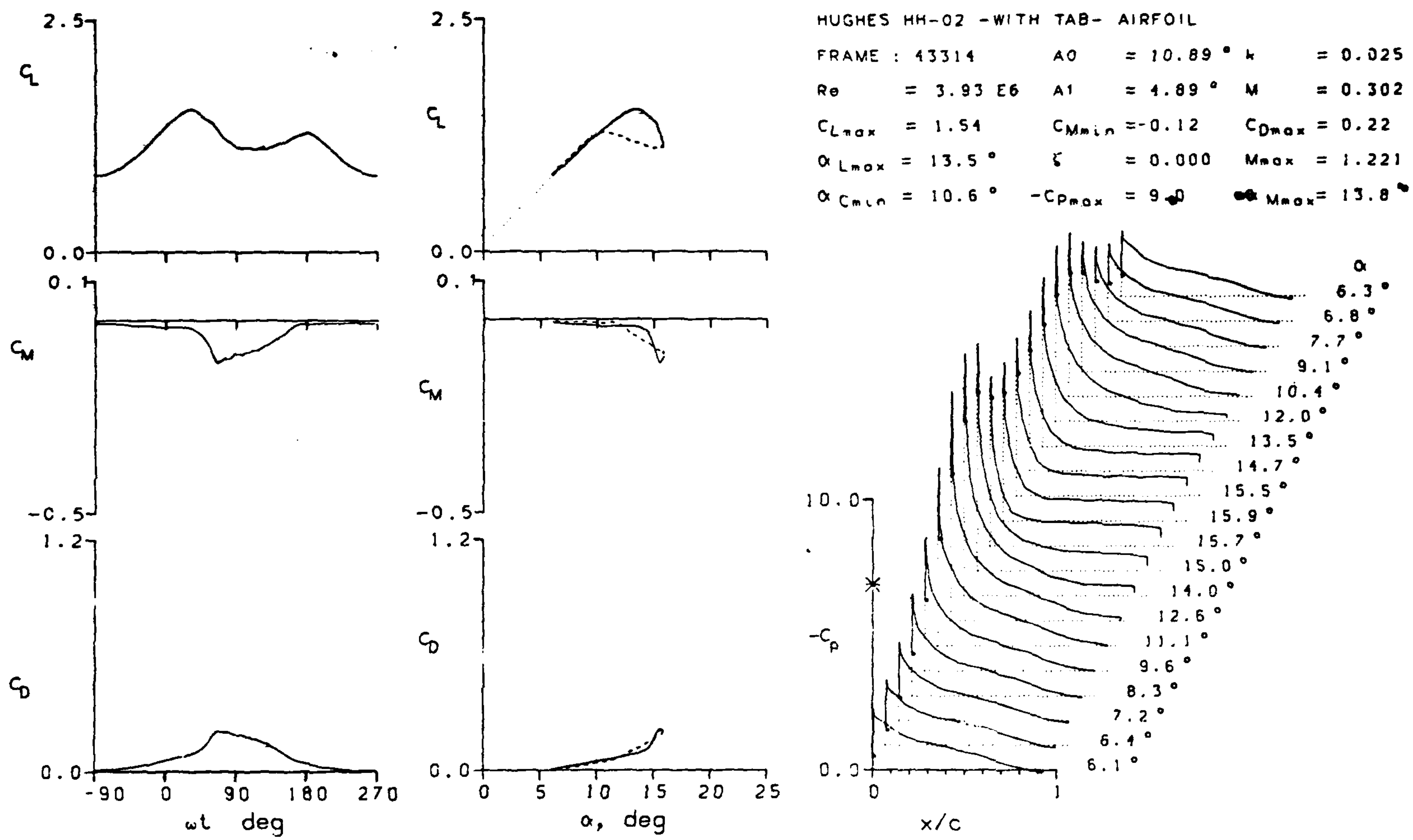

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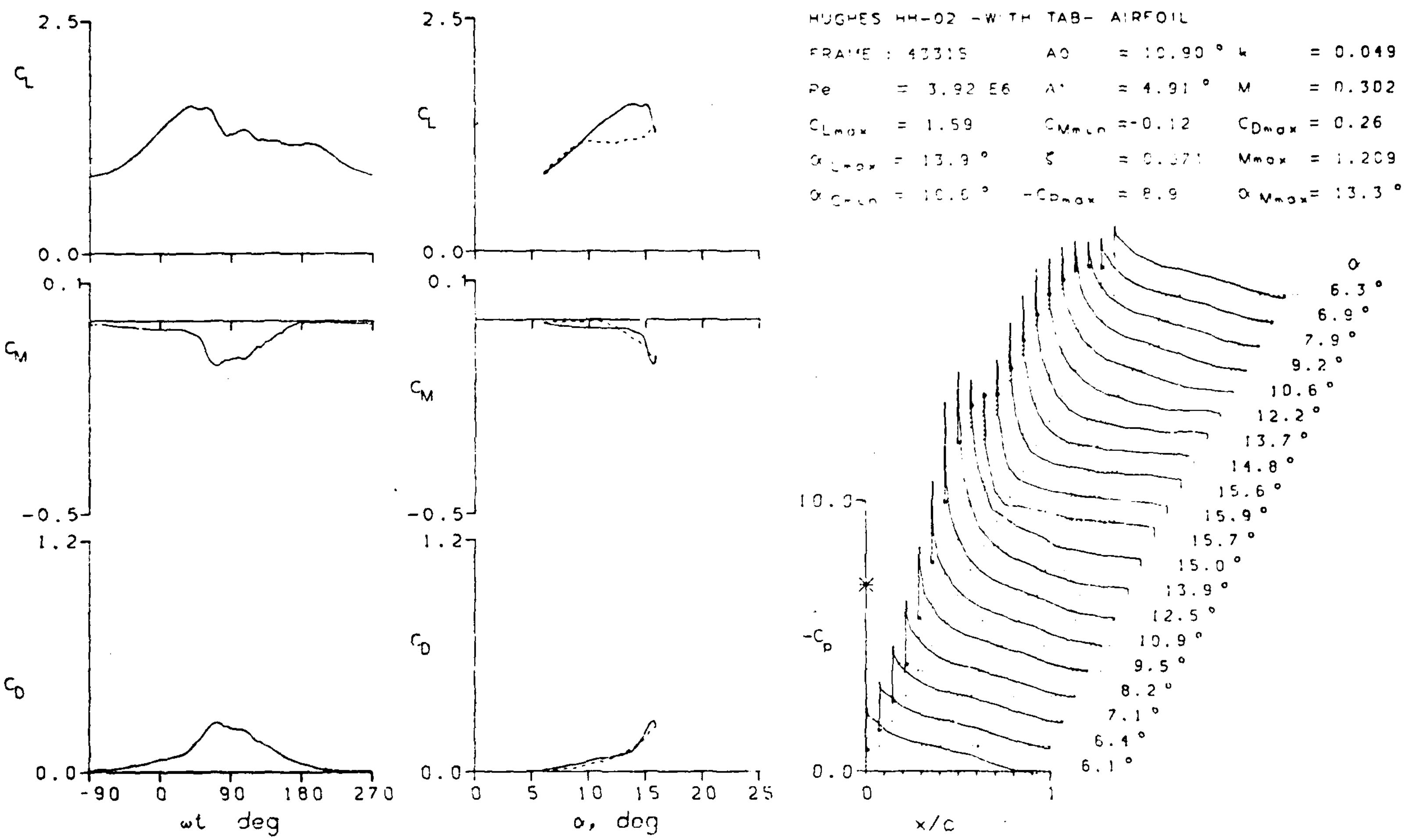

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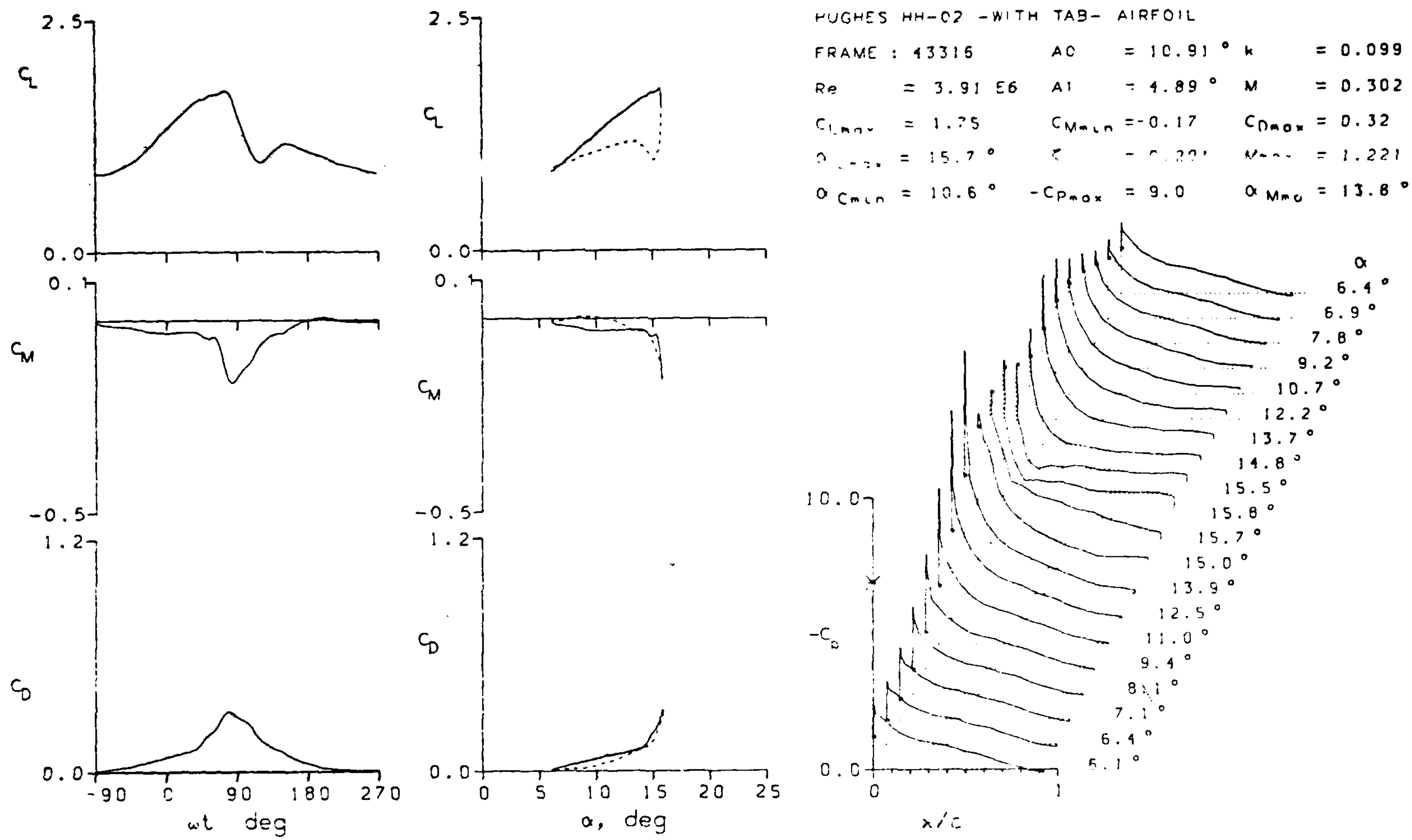

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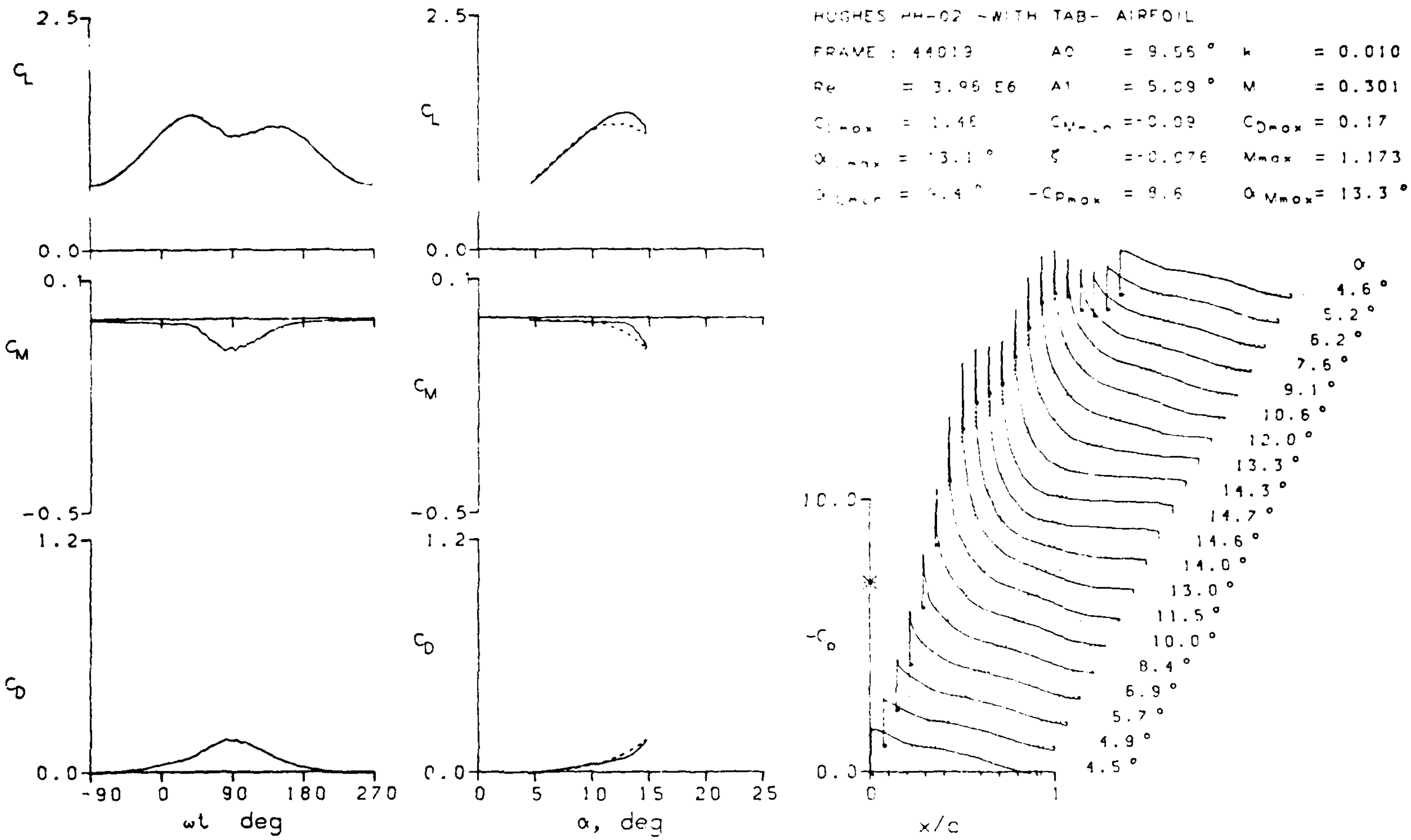

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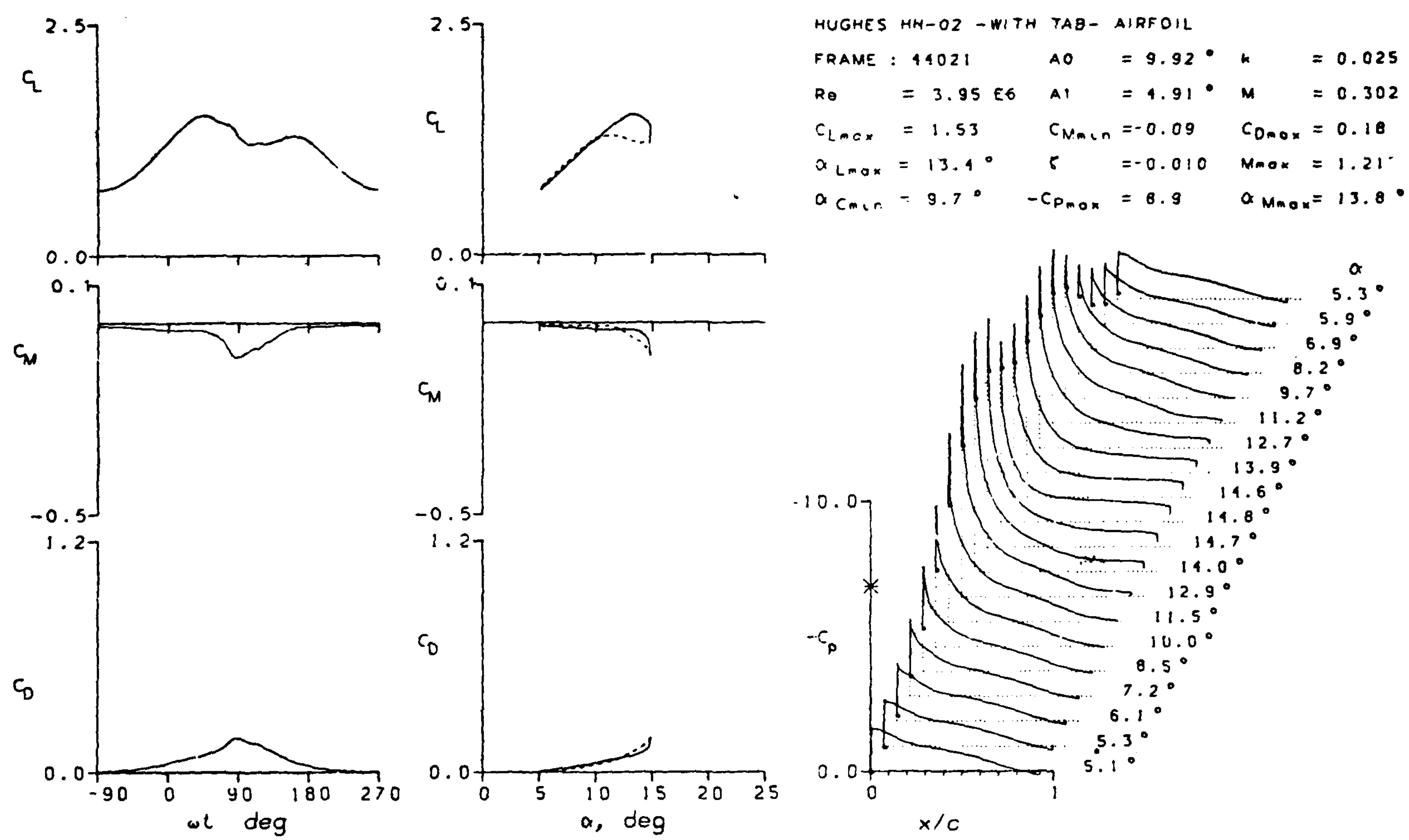

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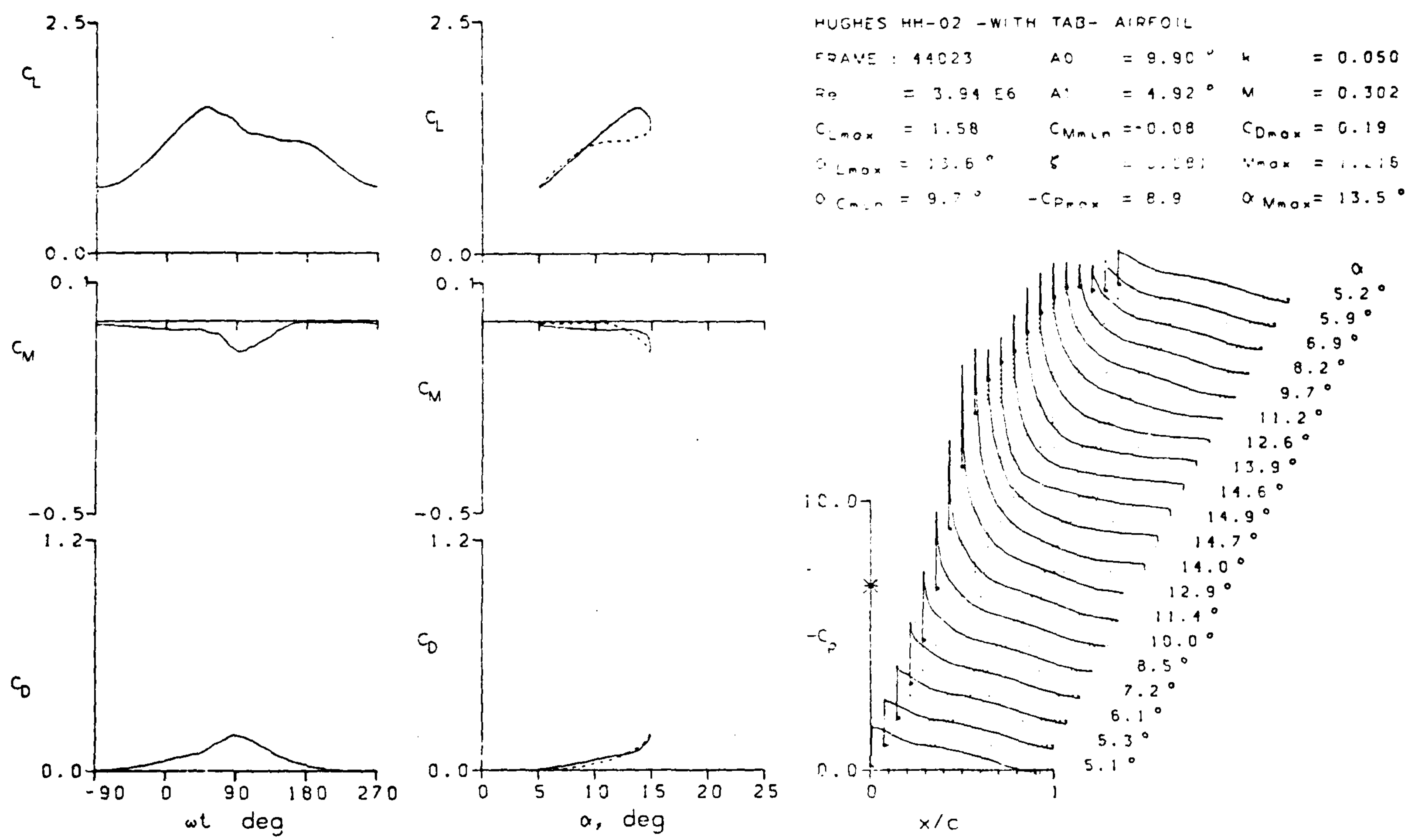

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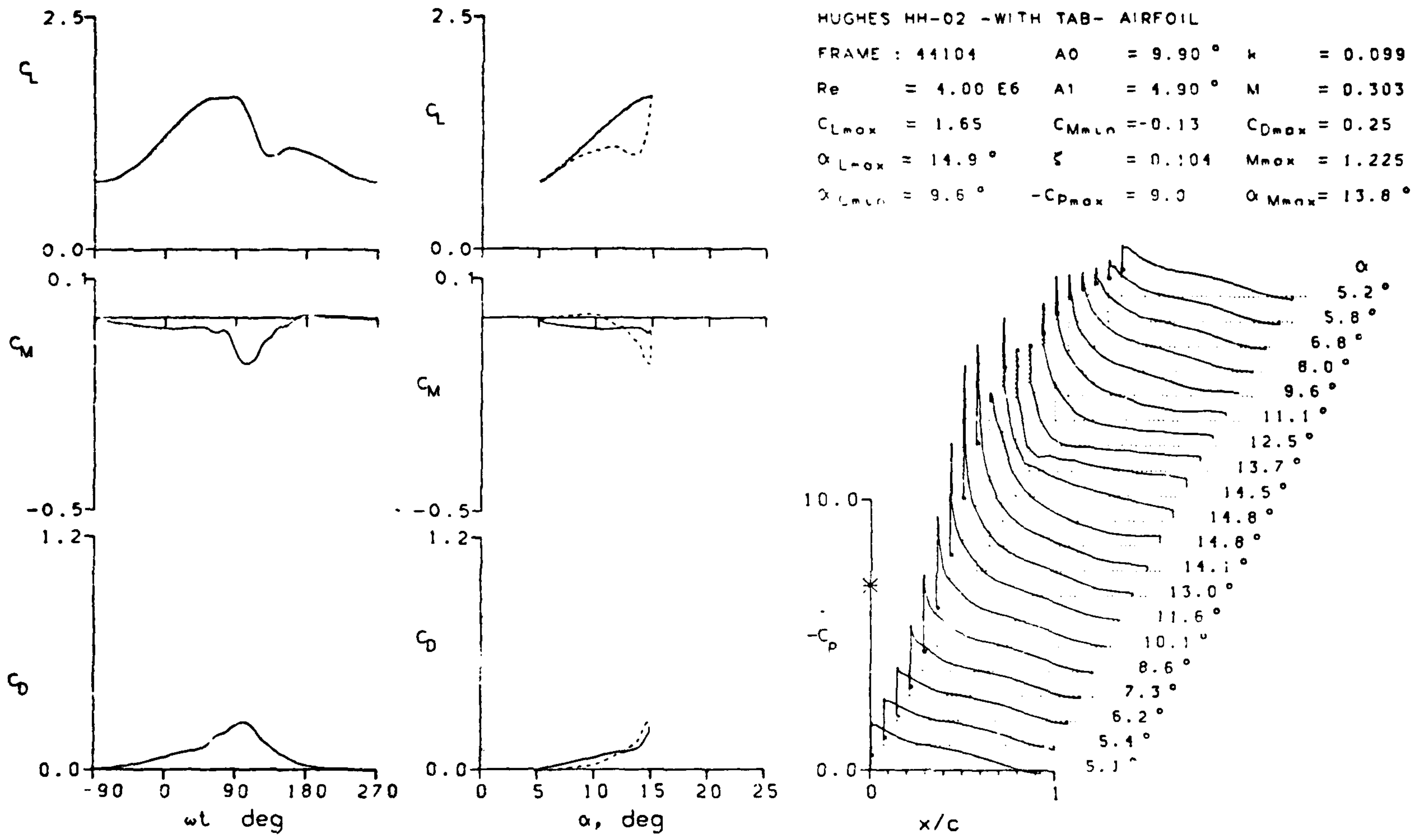

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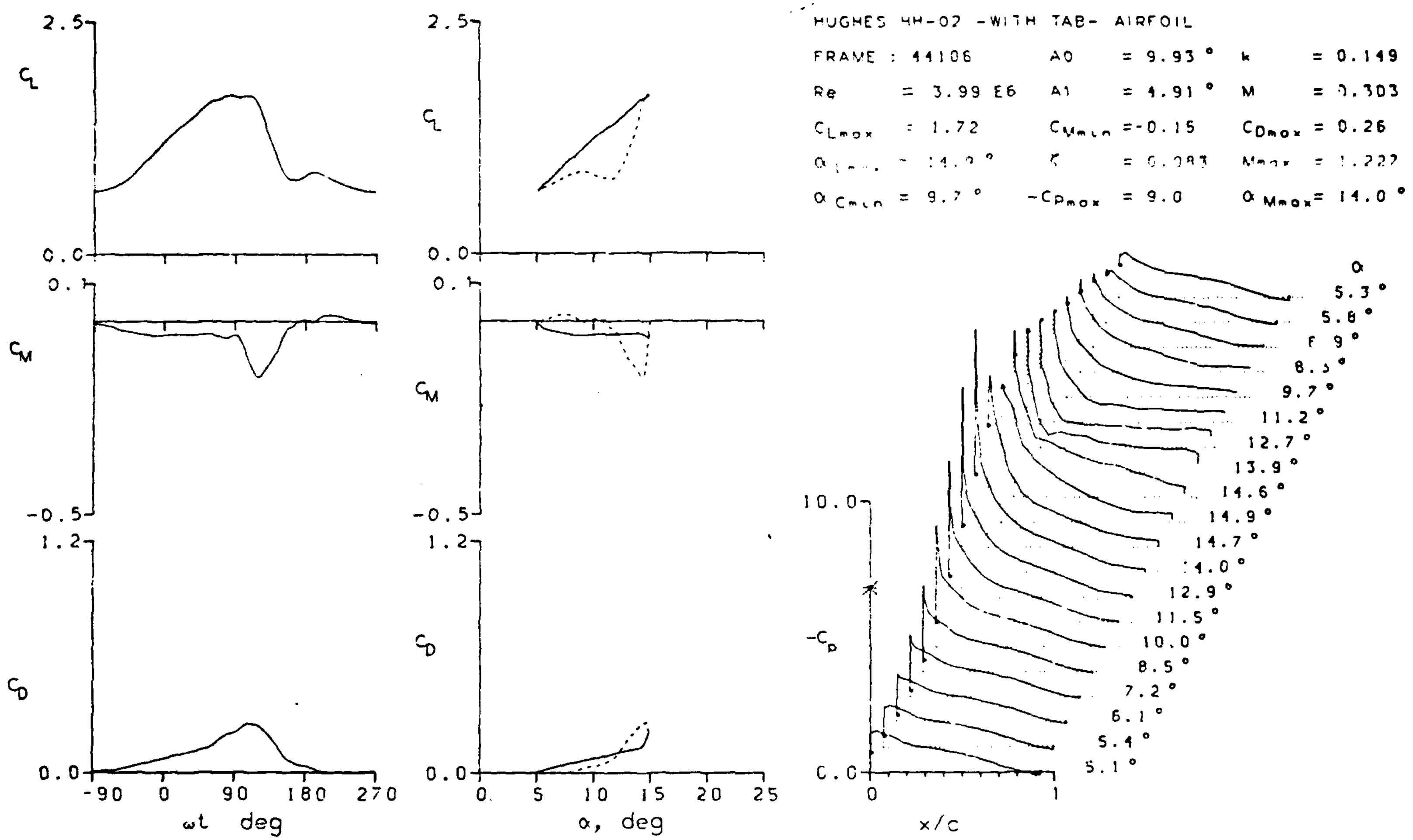

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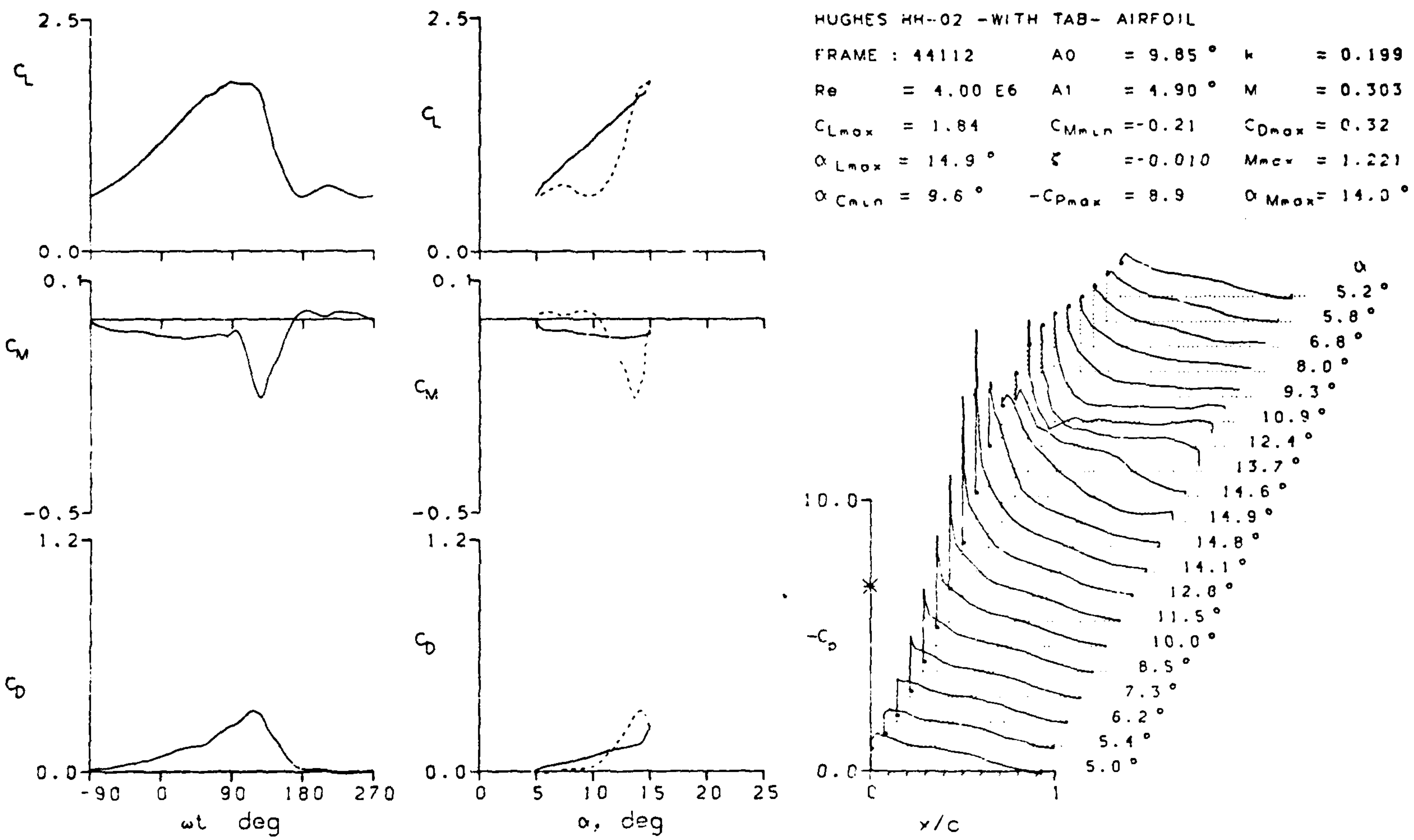

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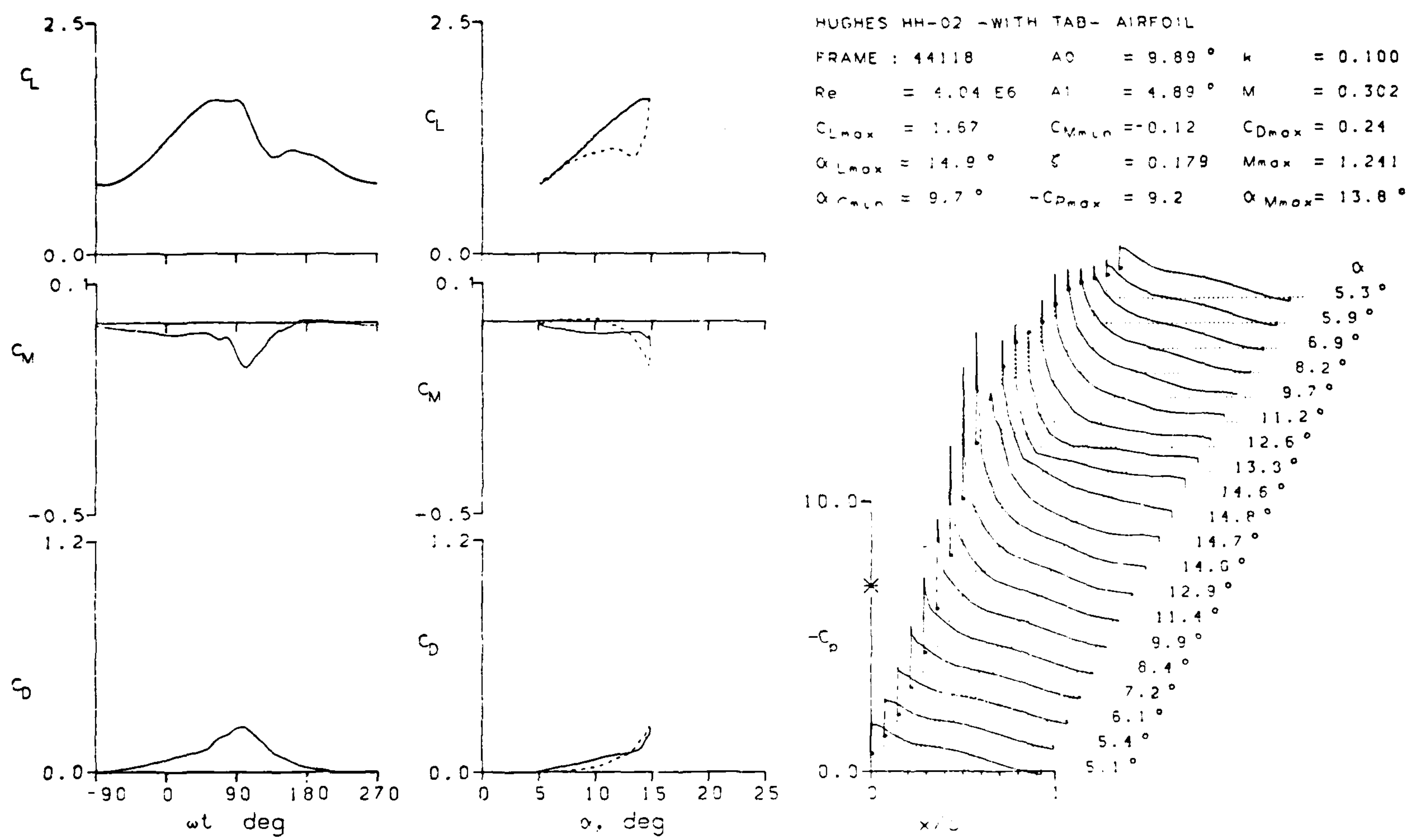

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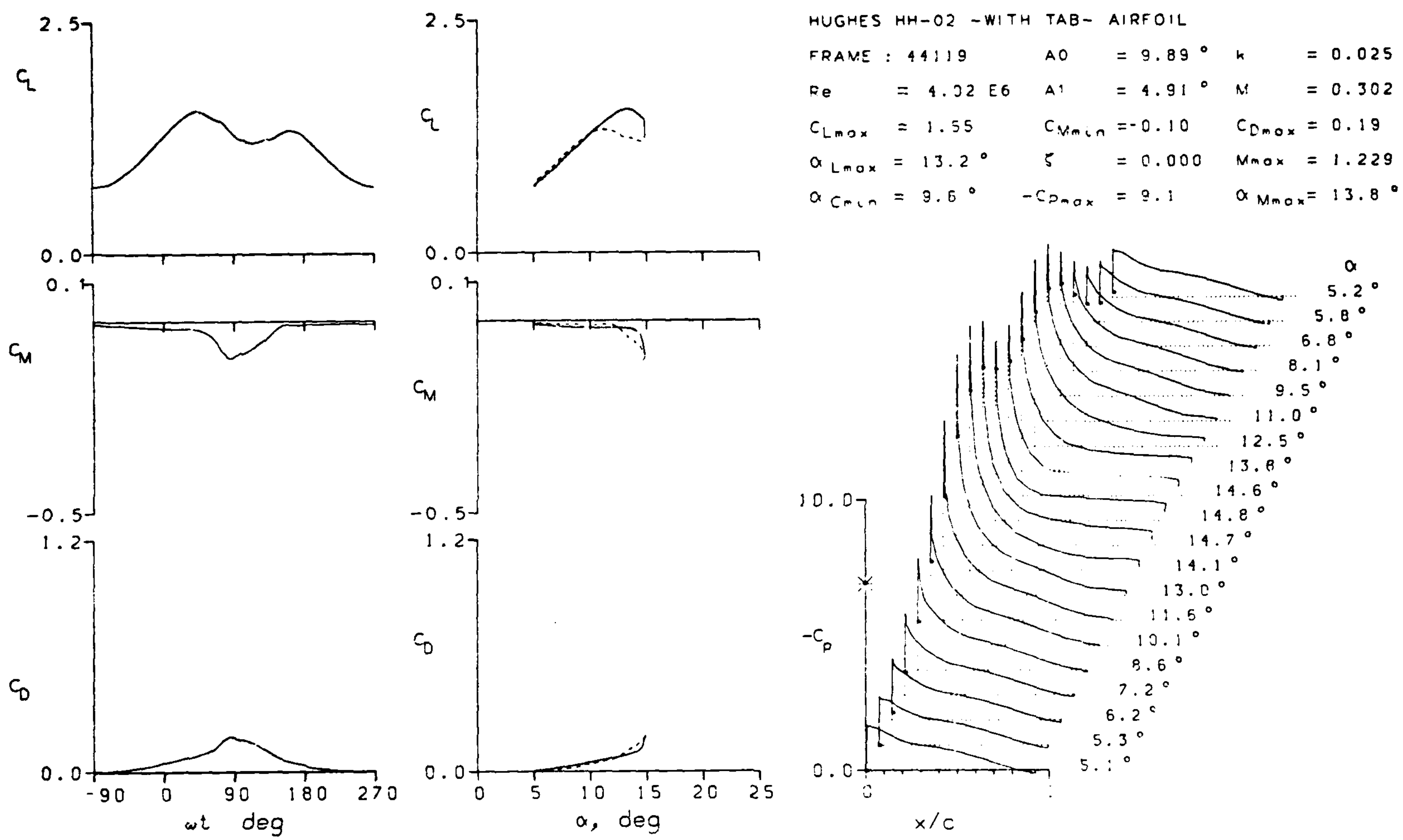

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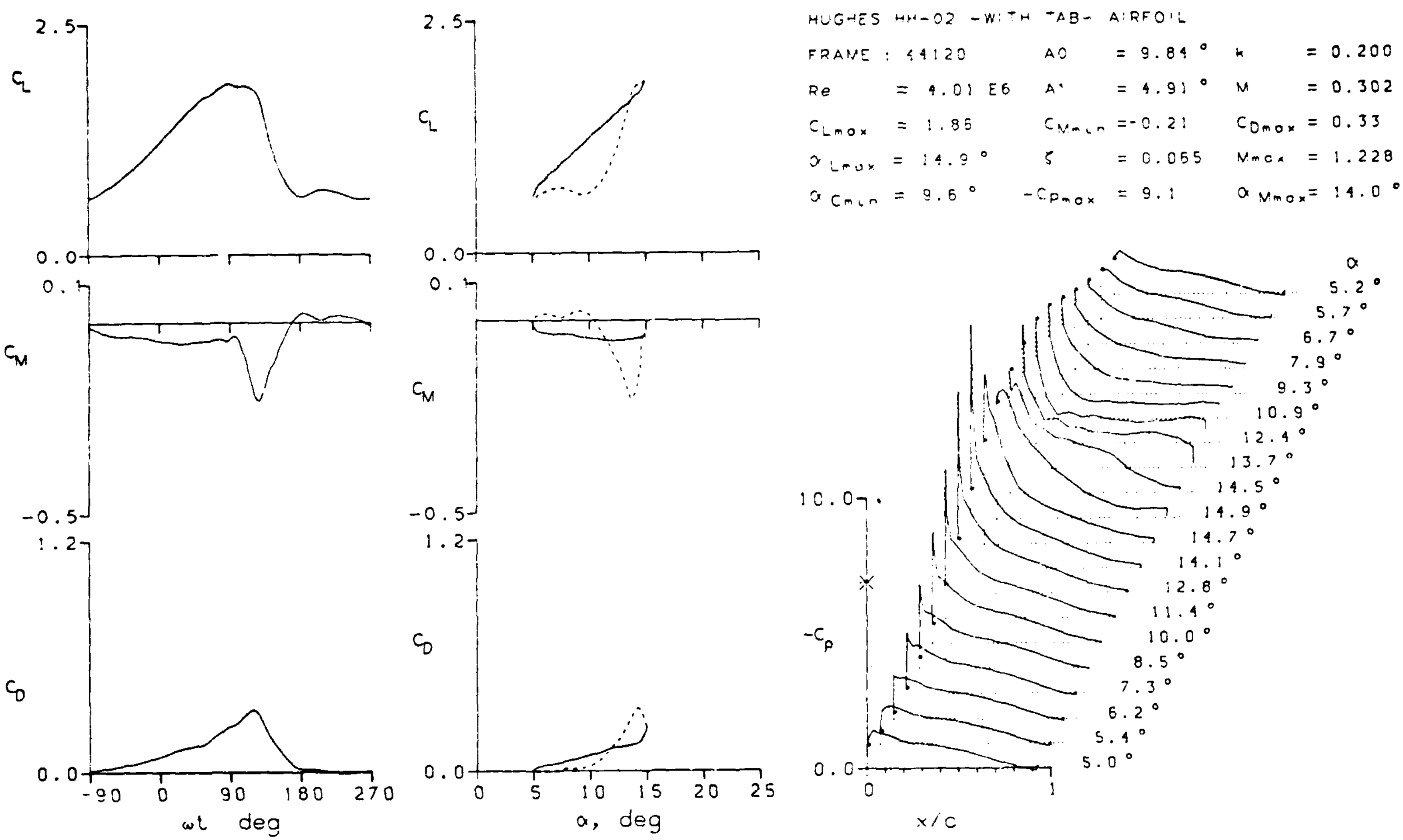

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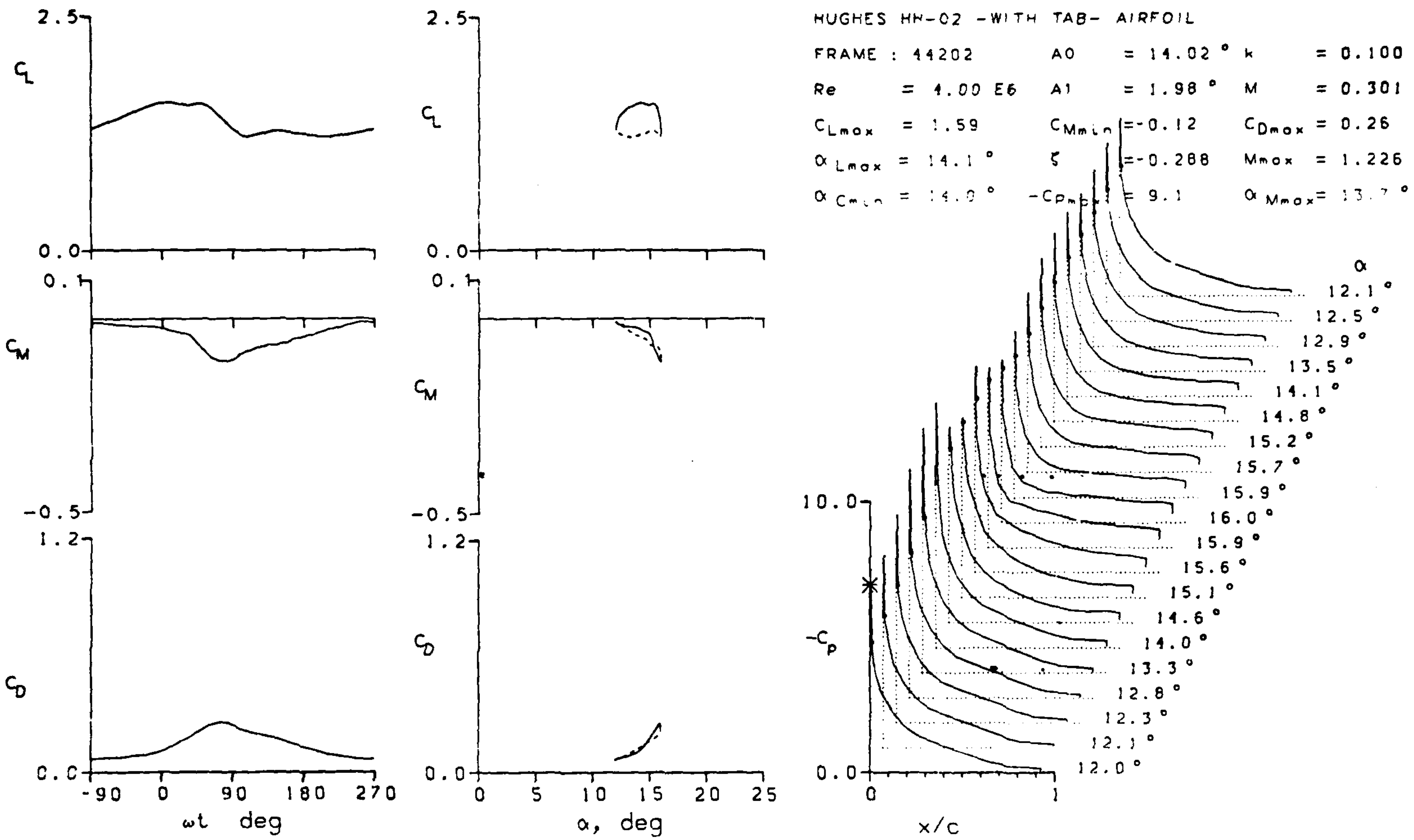

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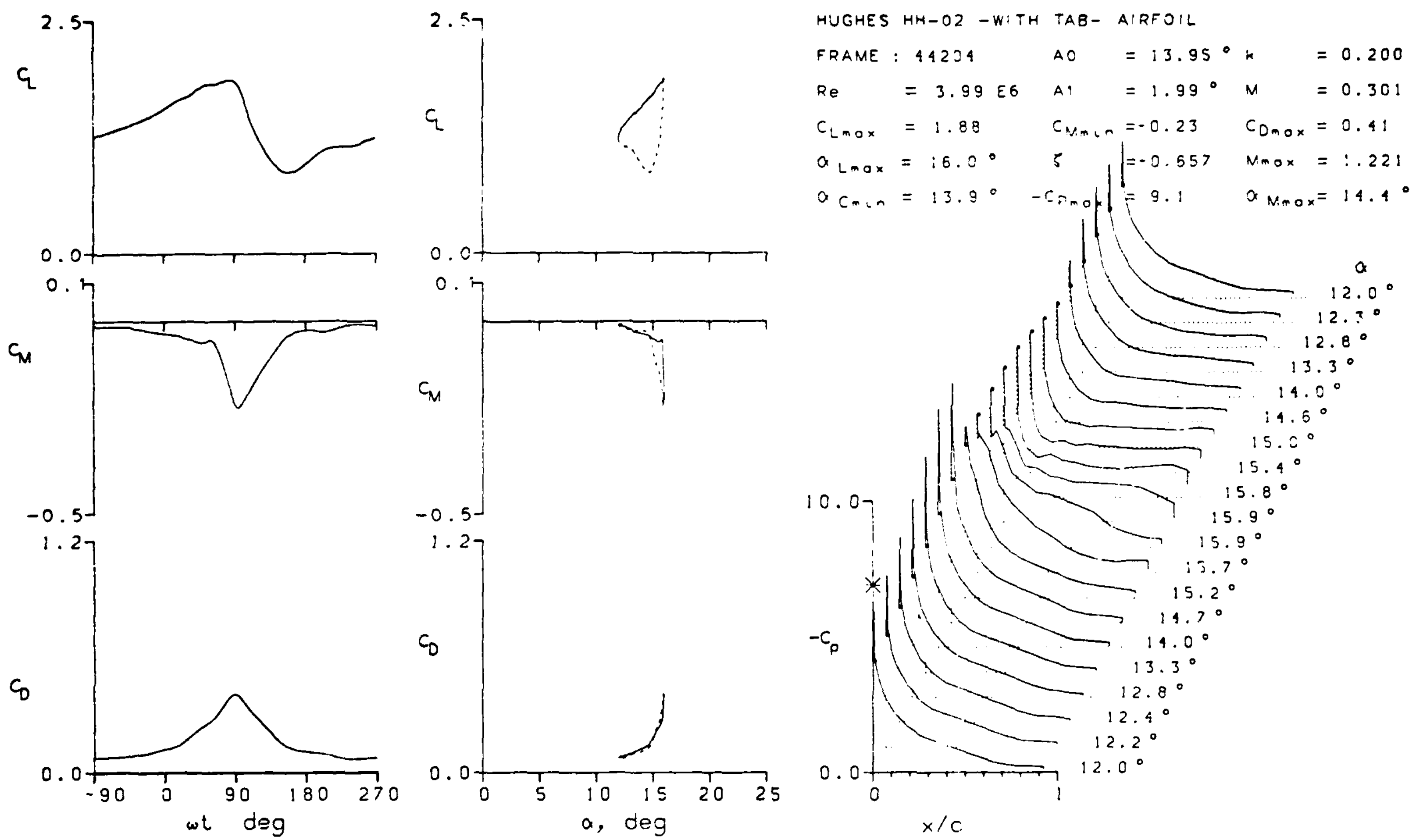

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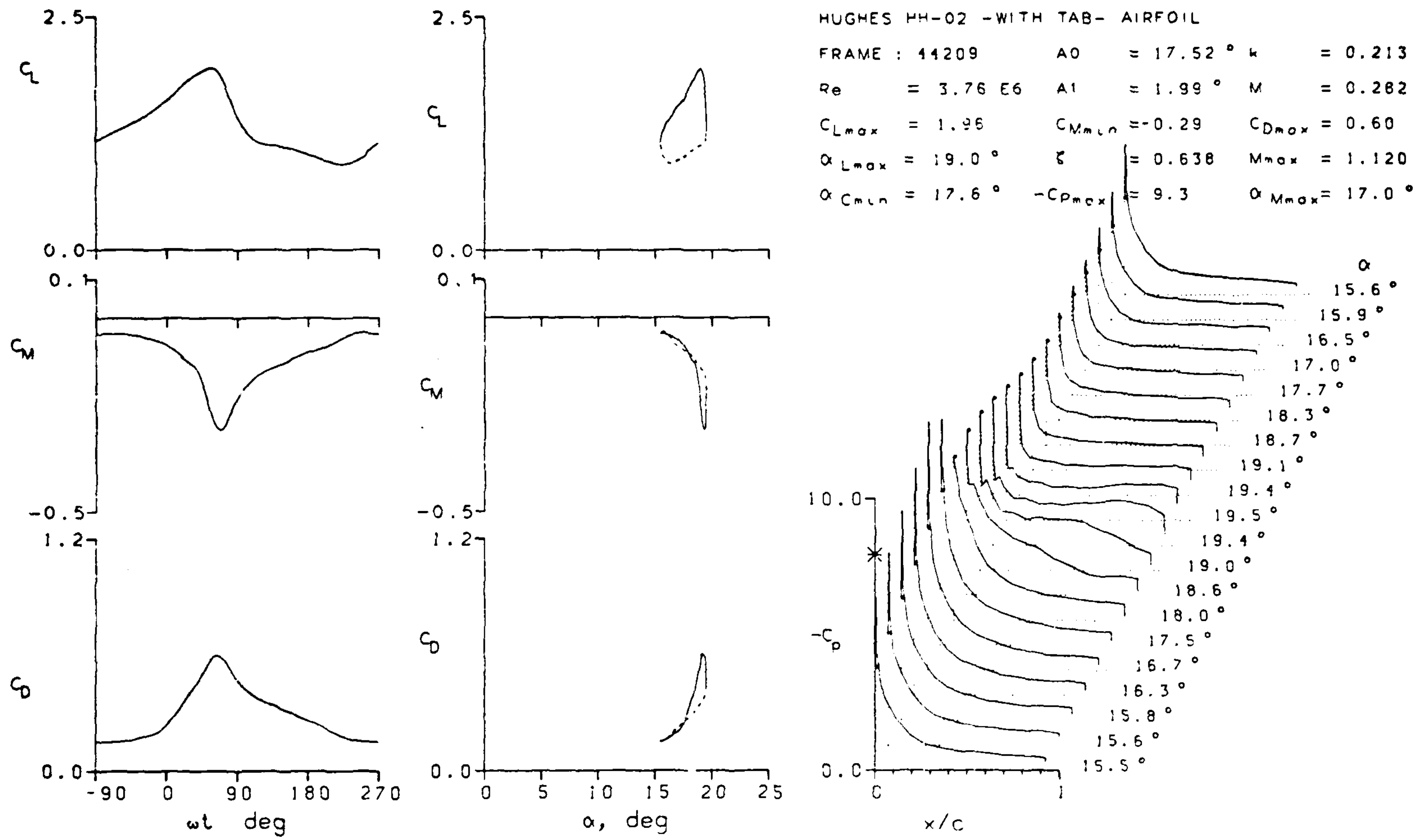

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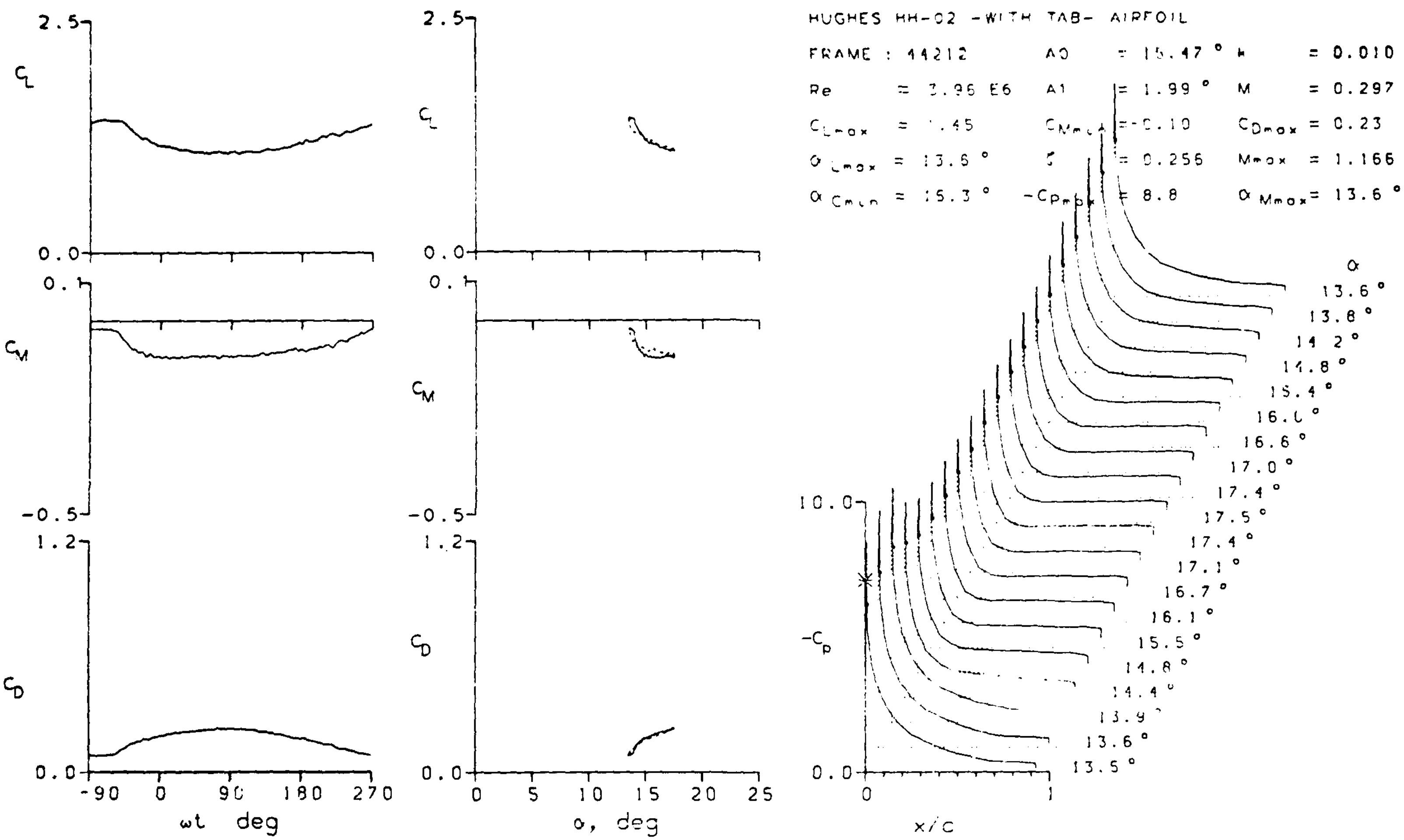

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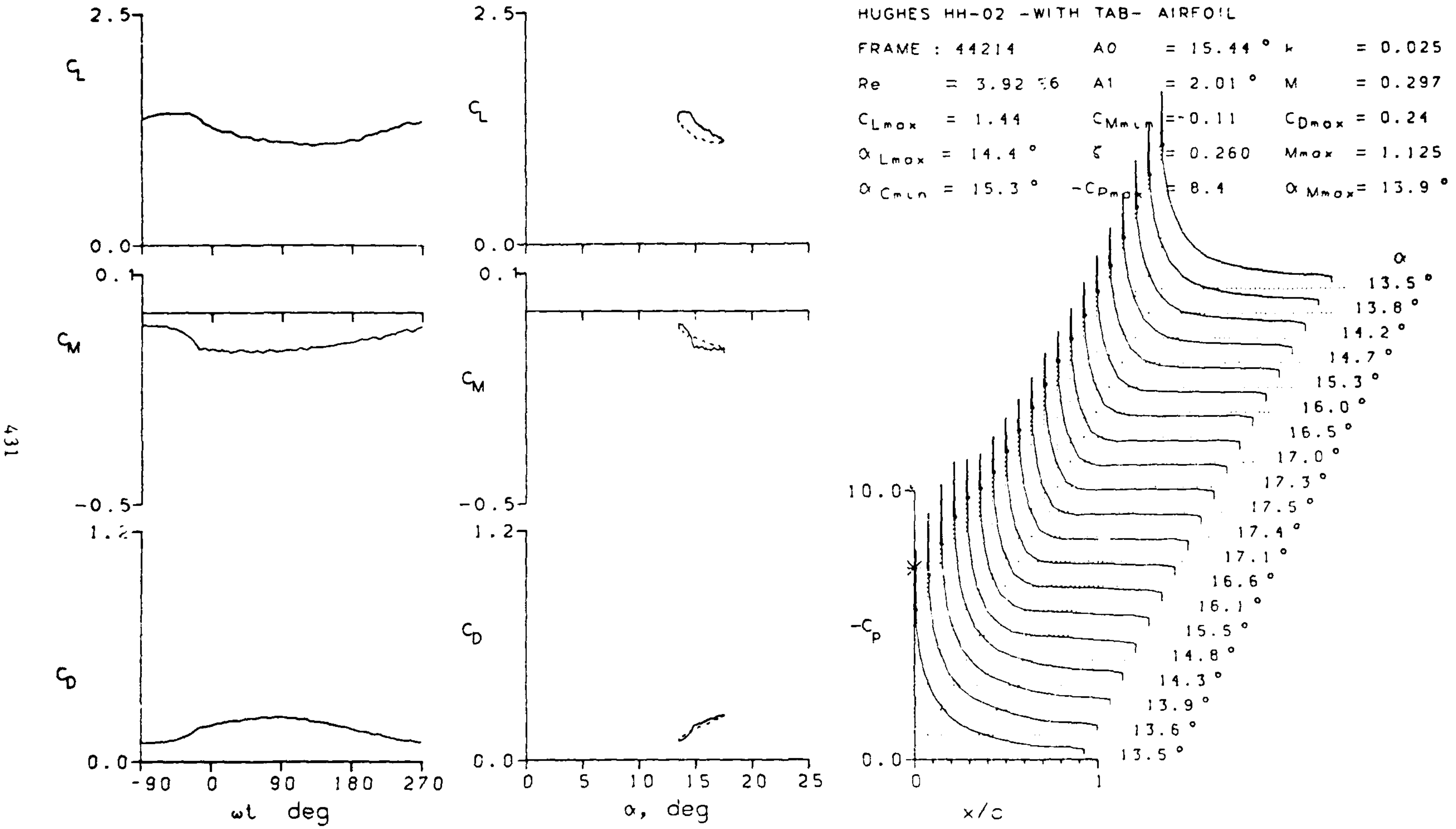

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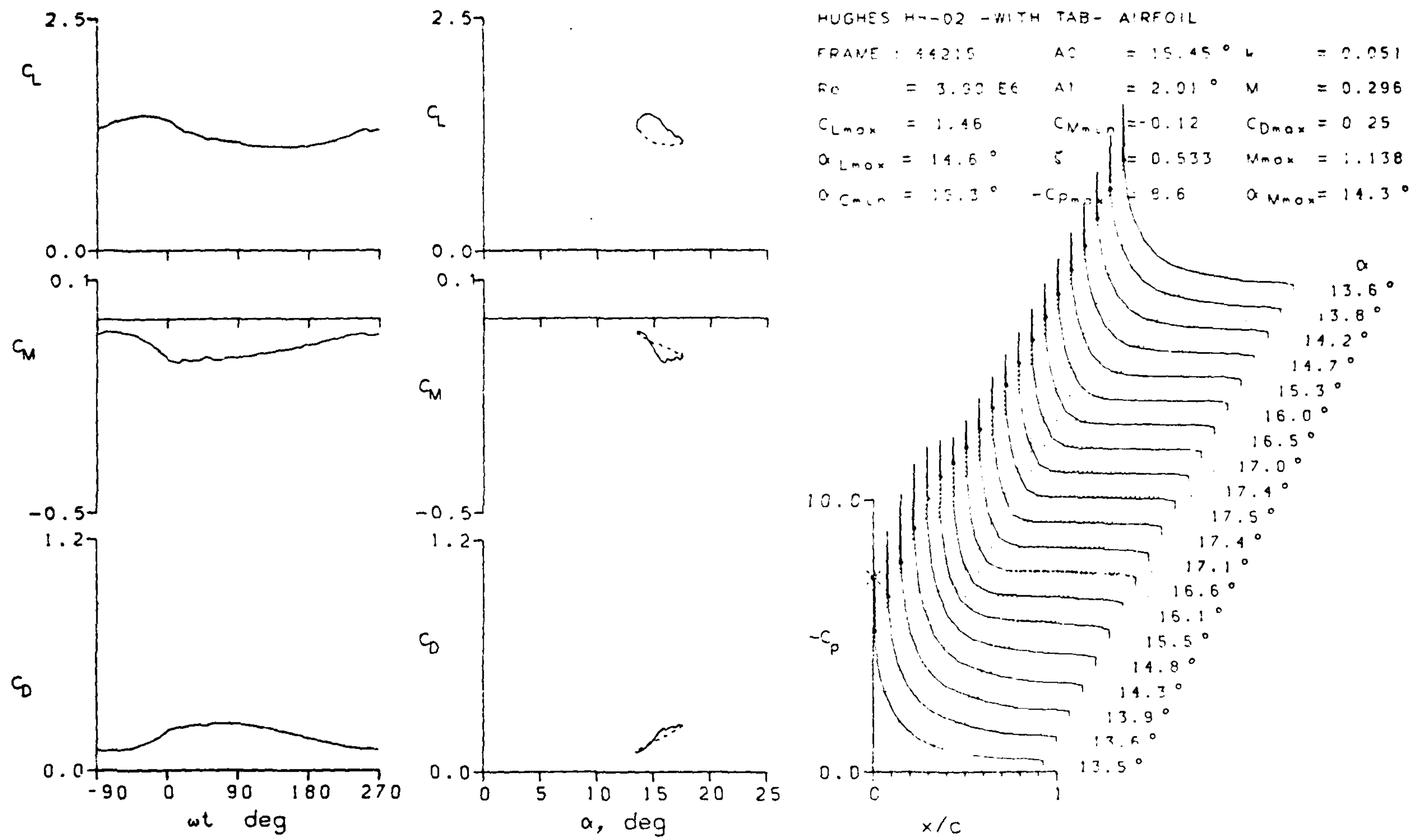

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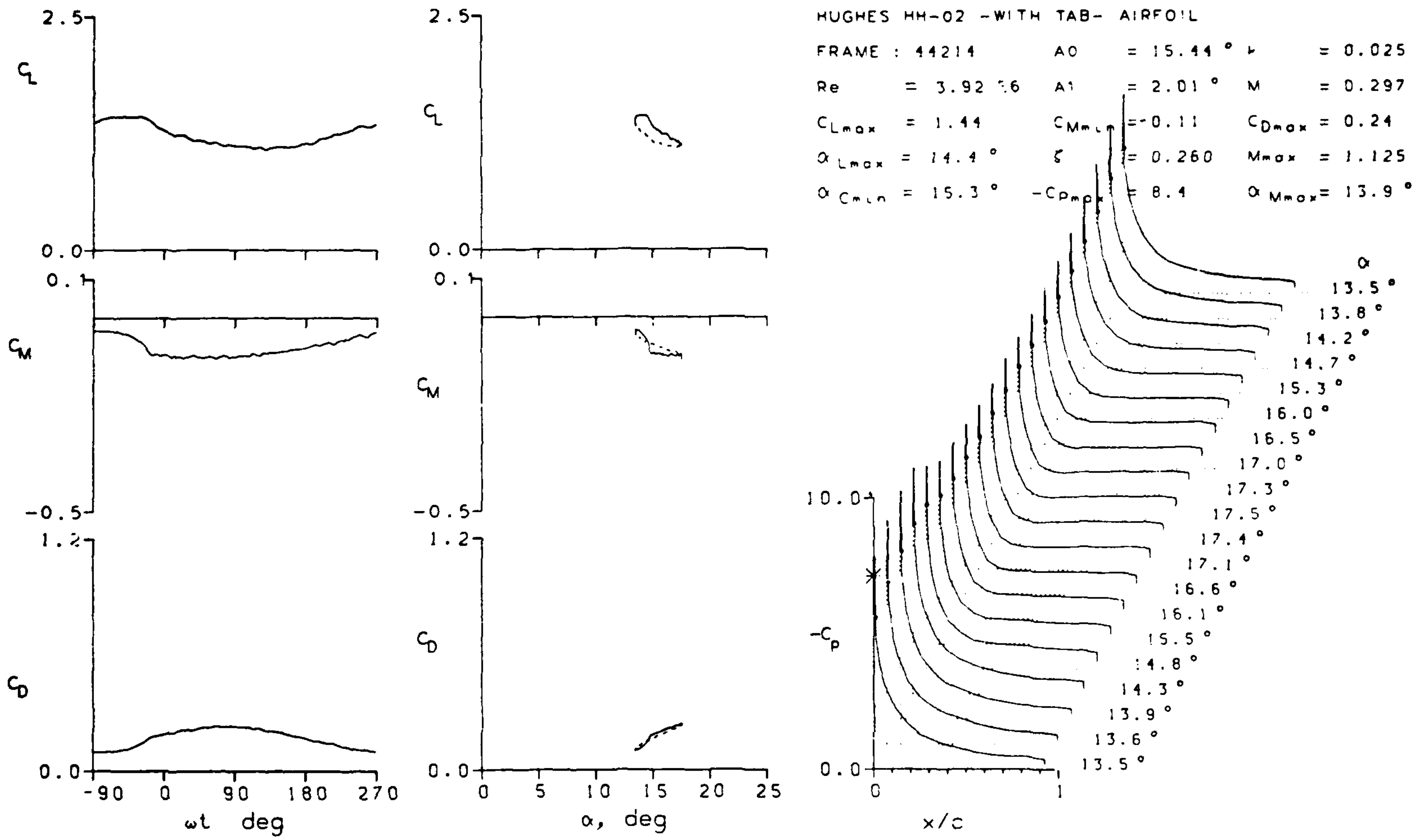

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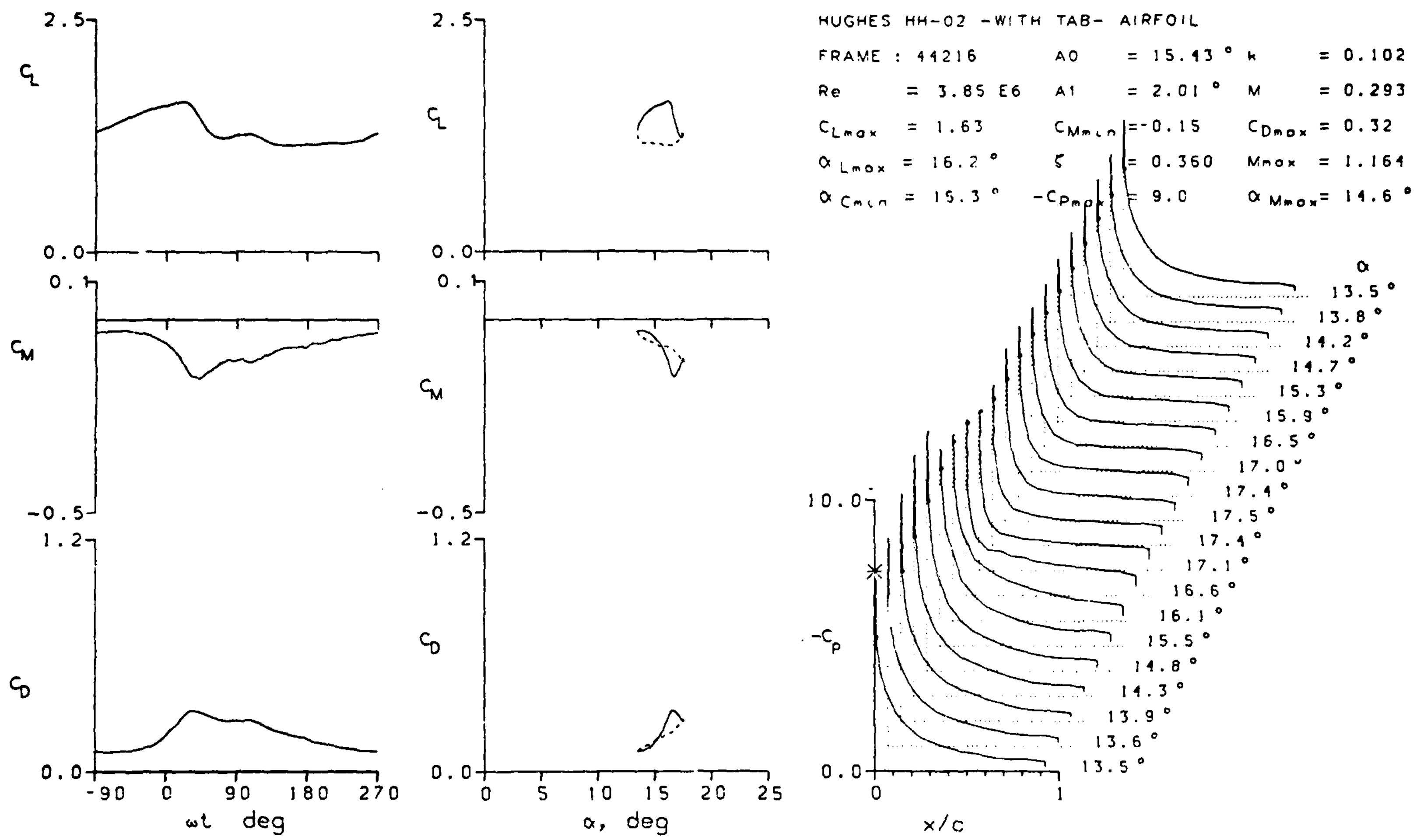

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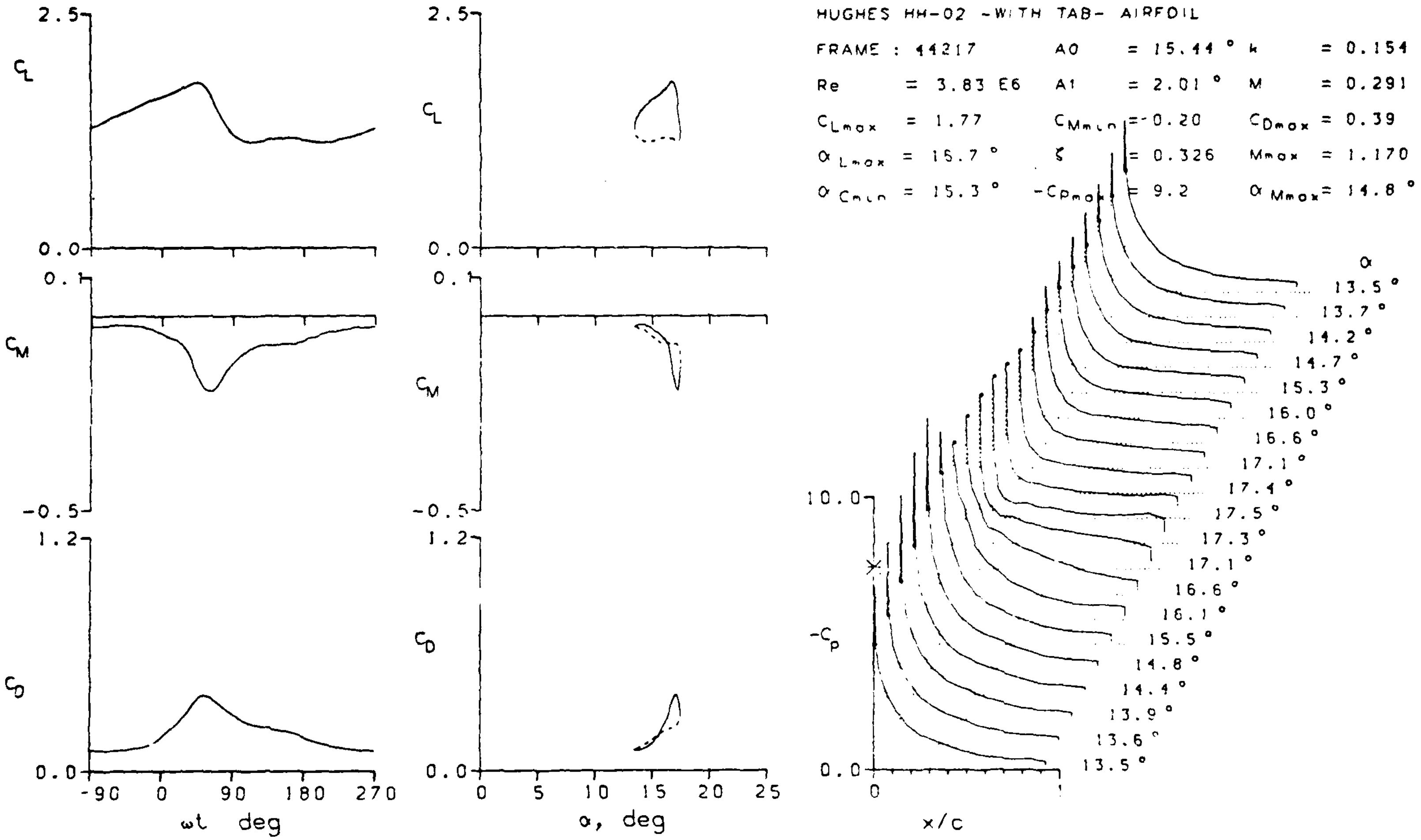

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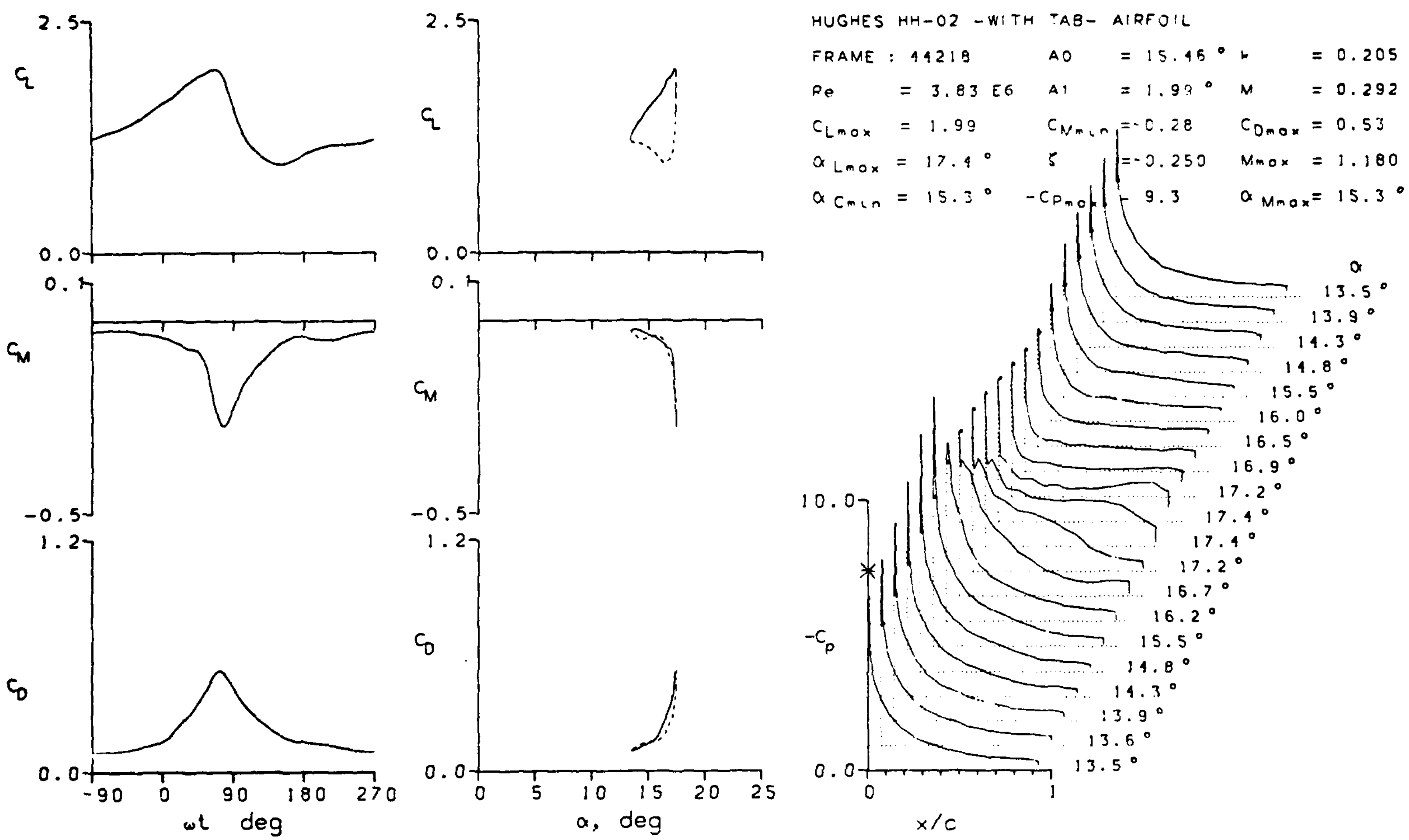

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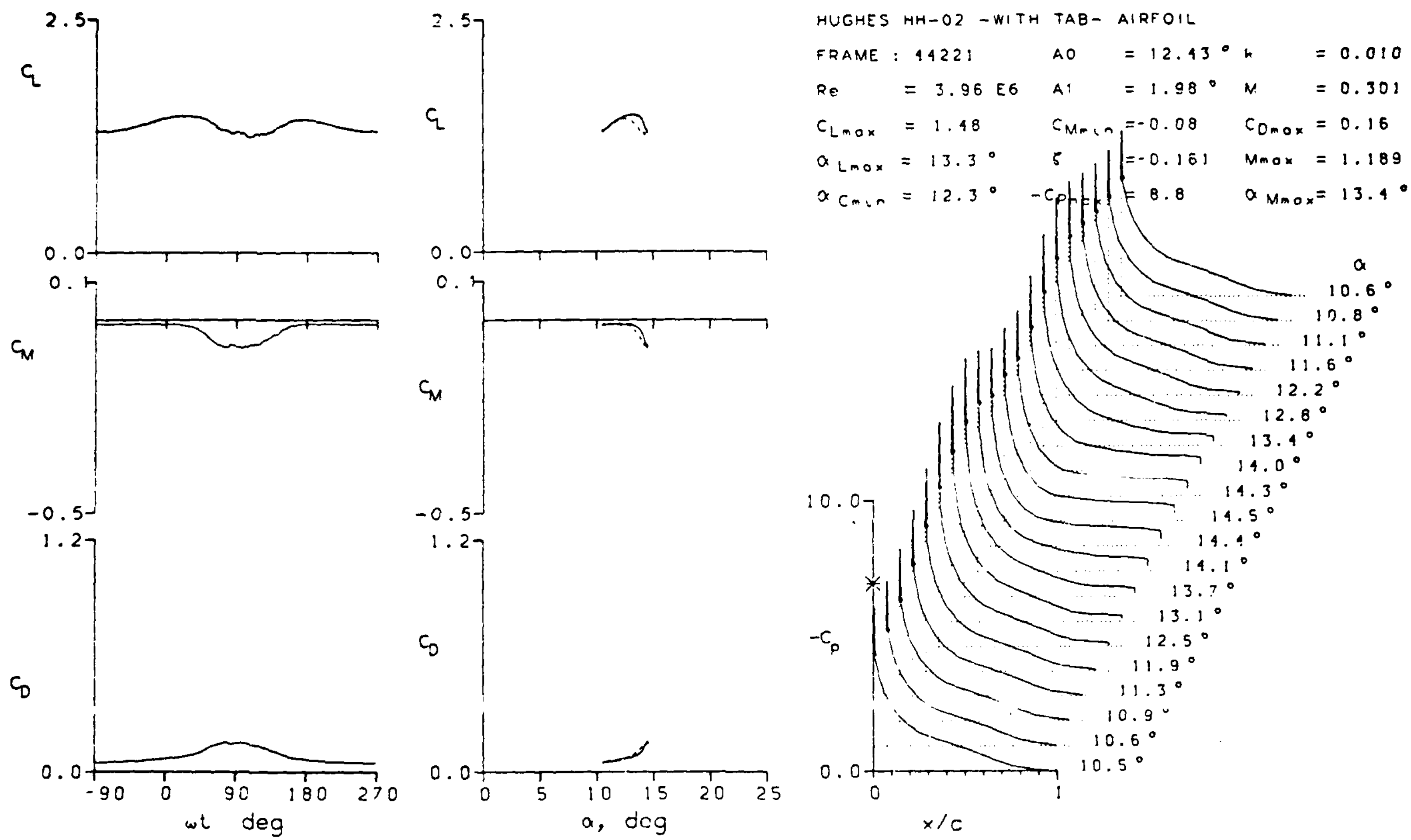

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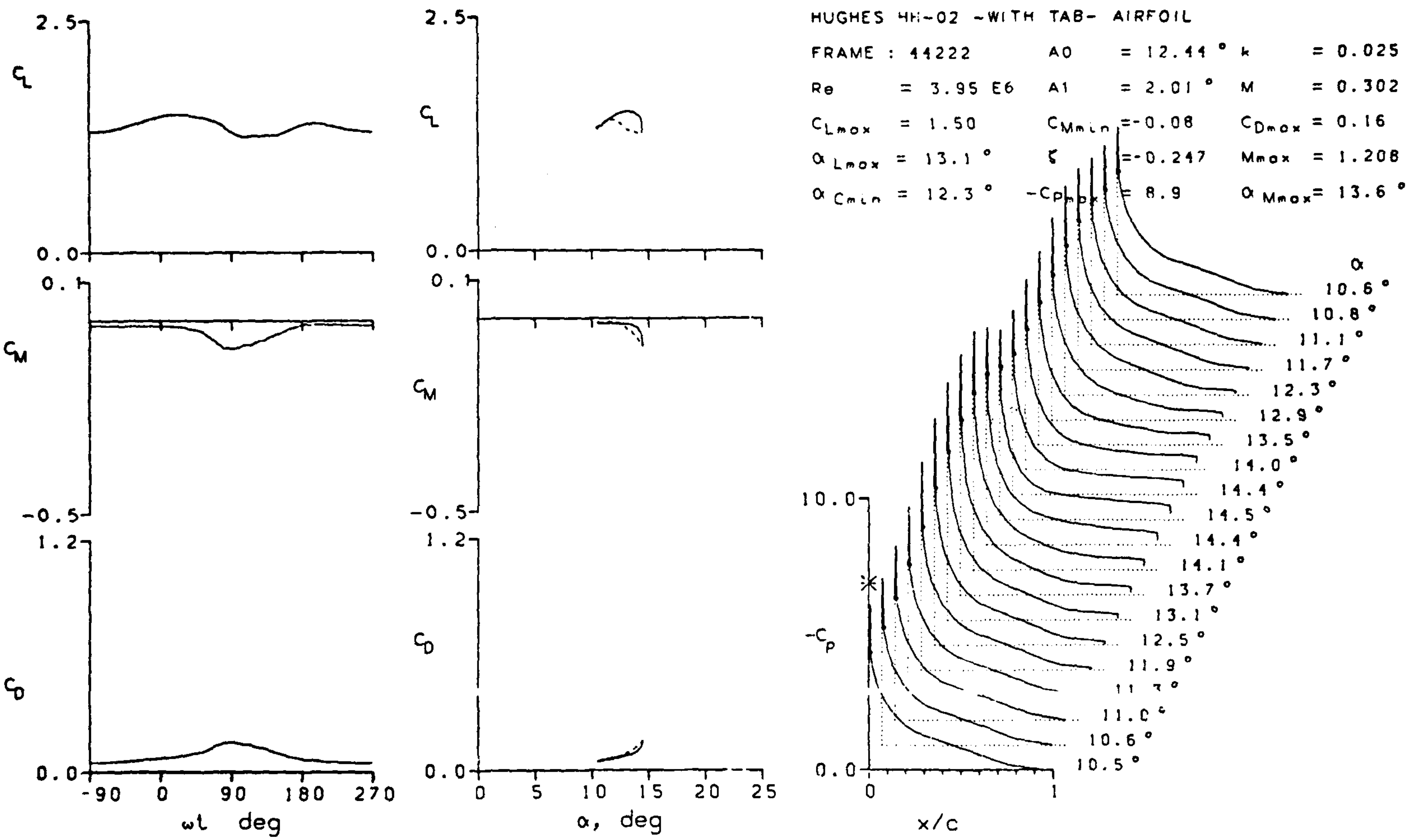

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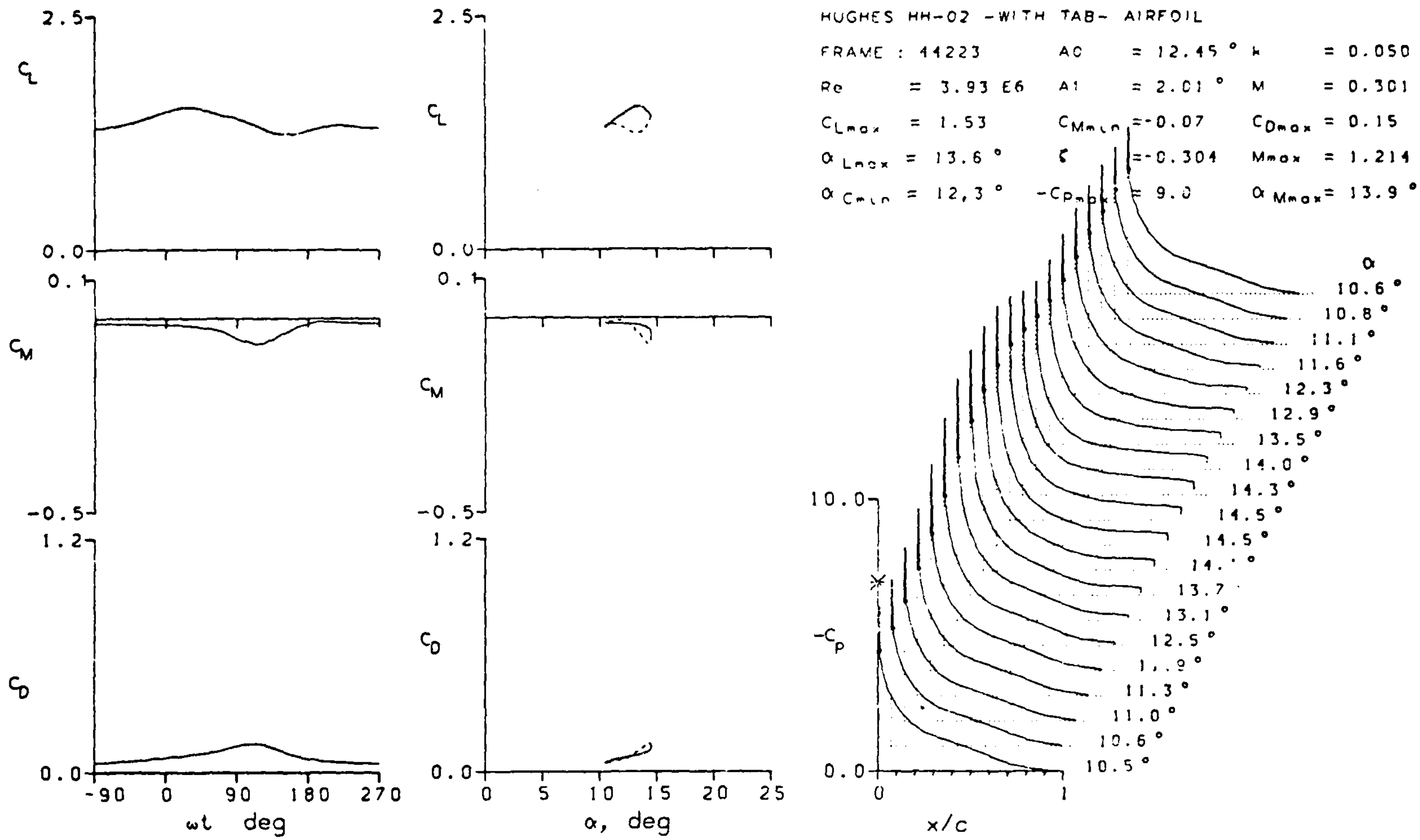

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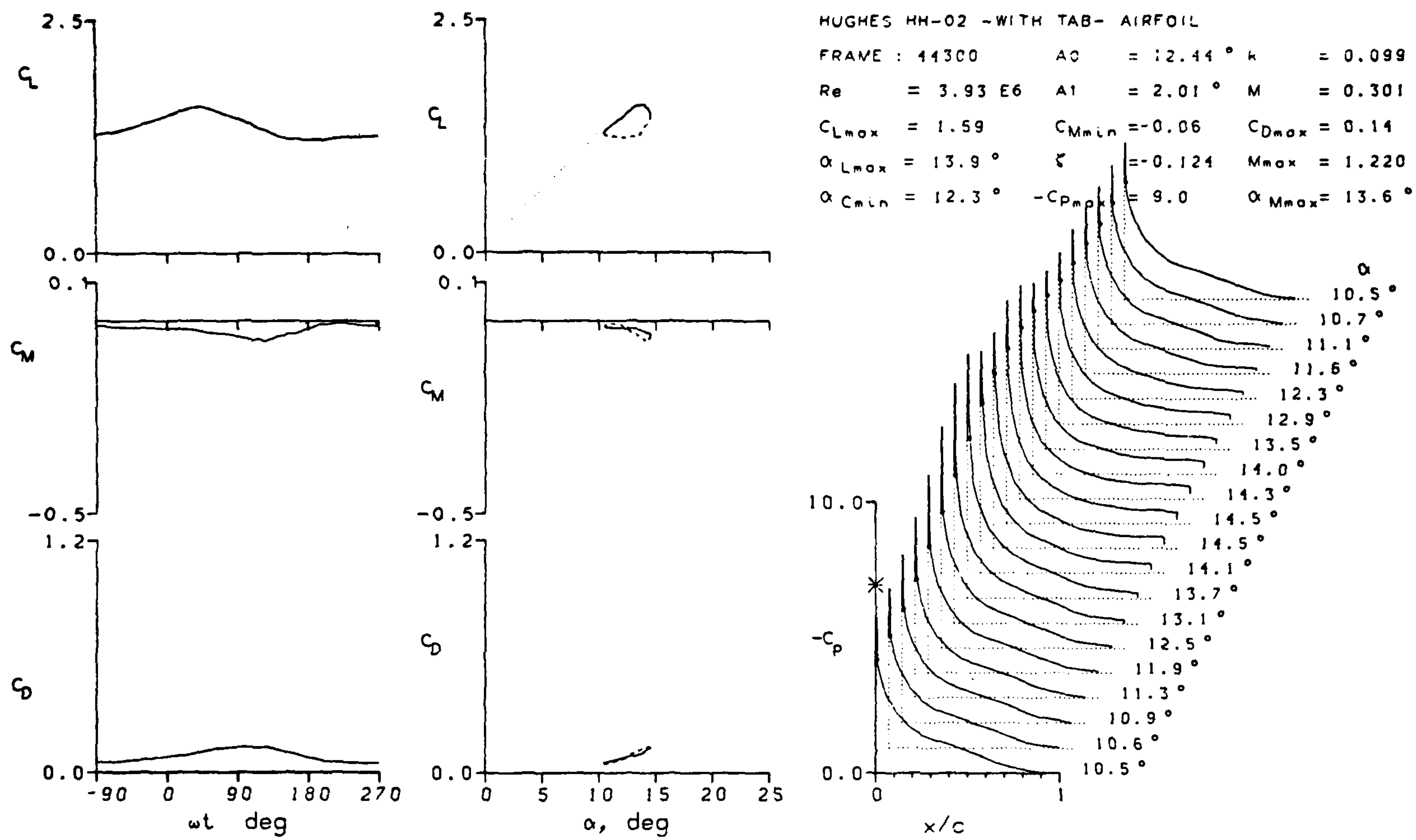

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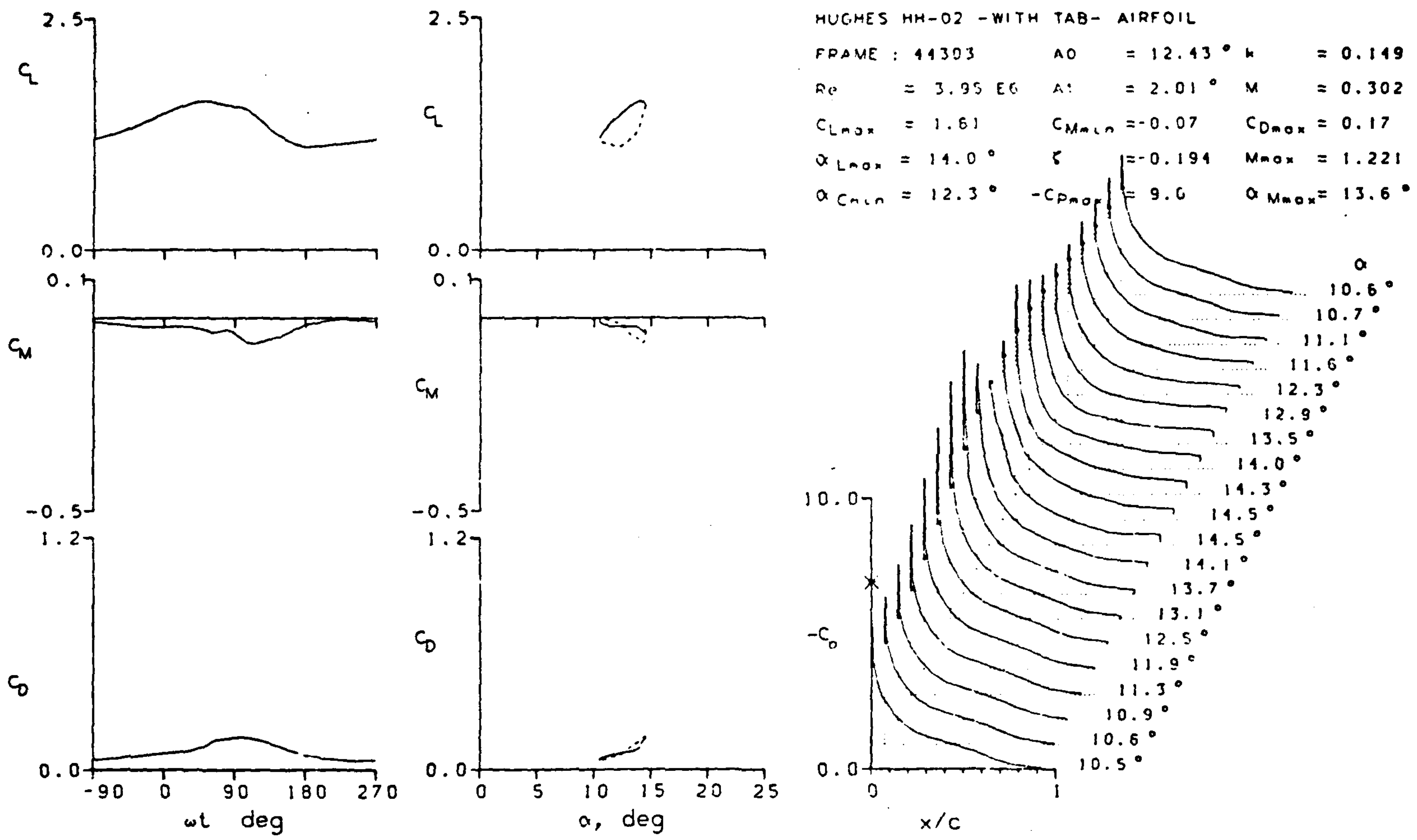

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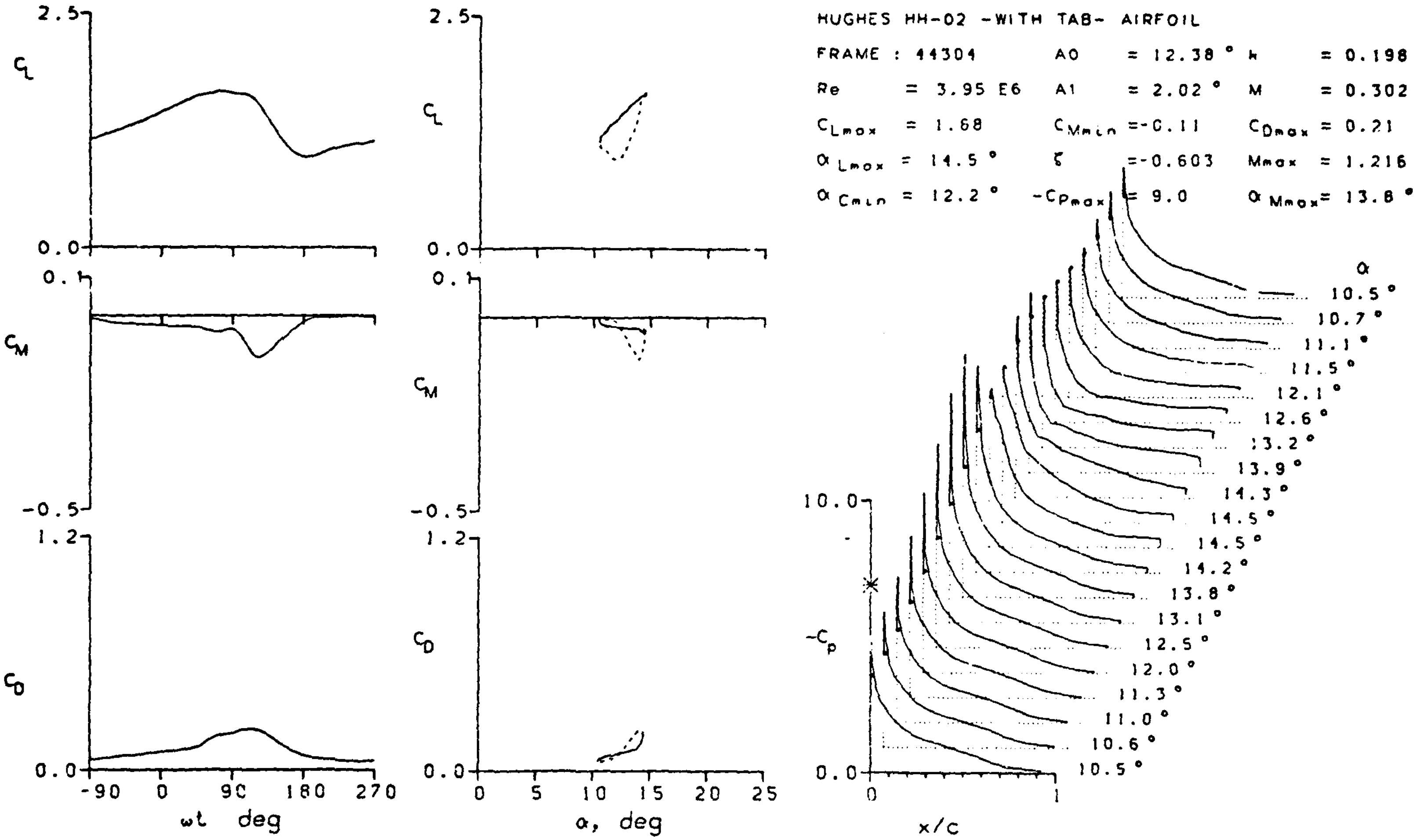

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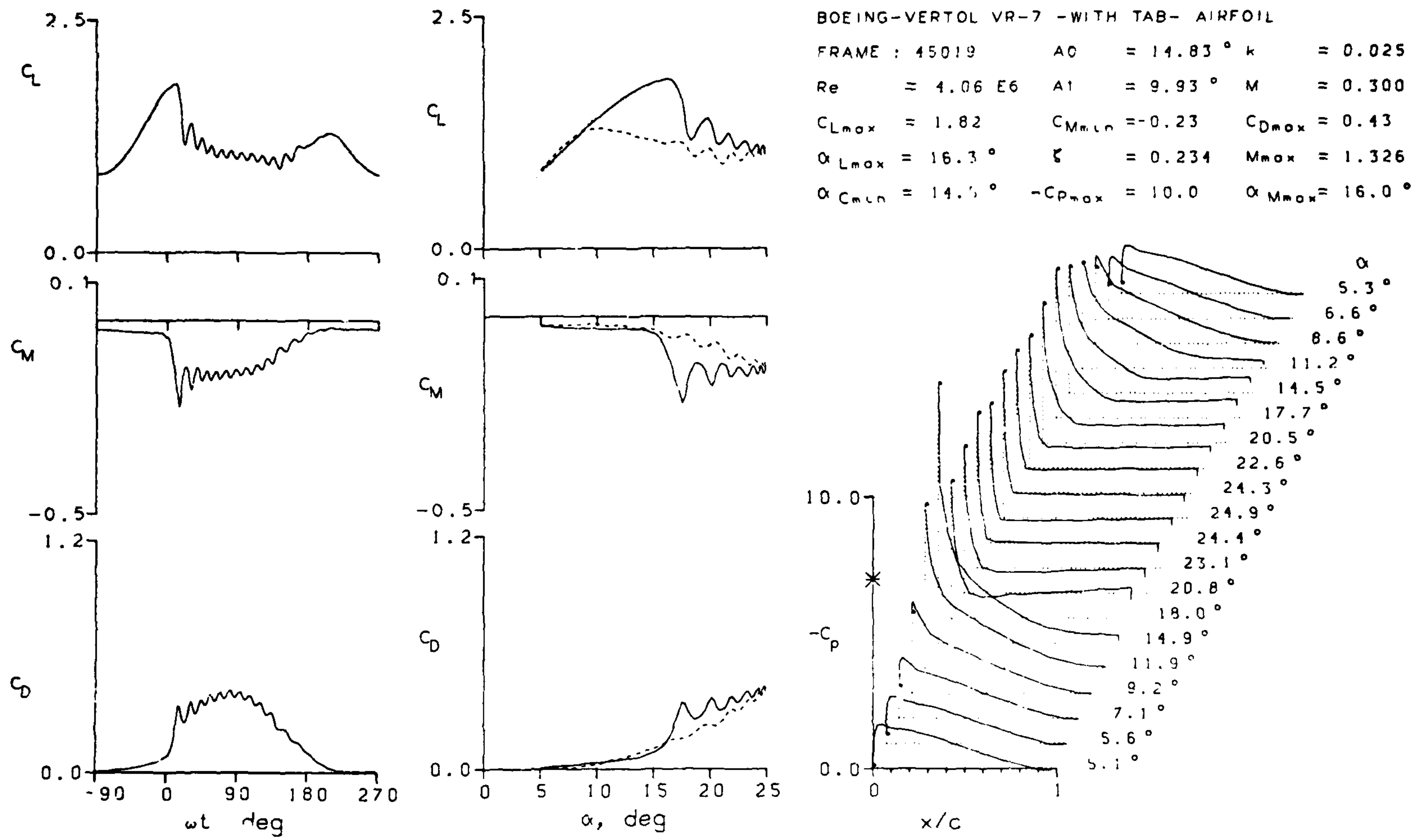
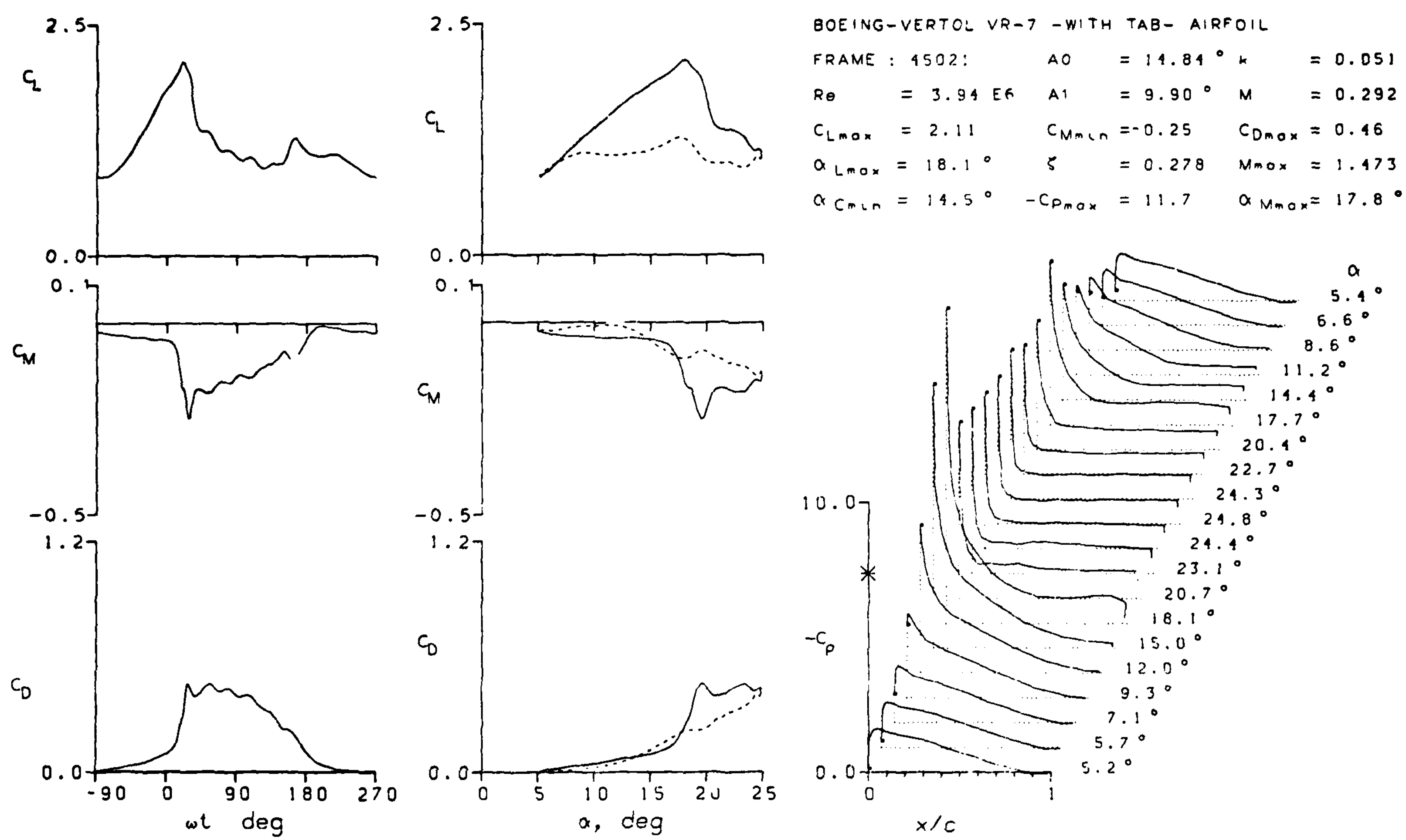


Figure 17.- Dynamic data for Vertol VR-7 airfoil.



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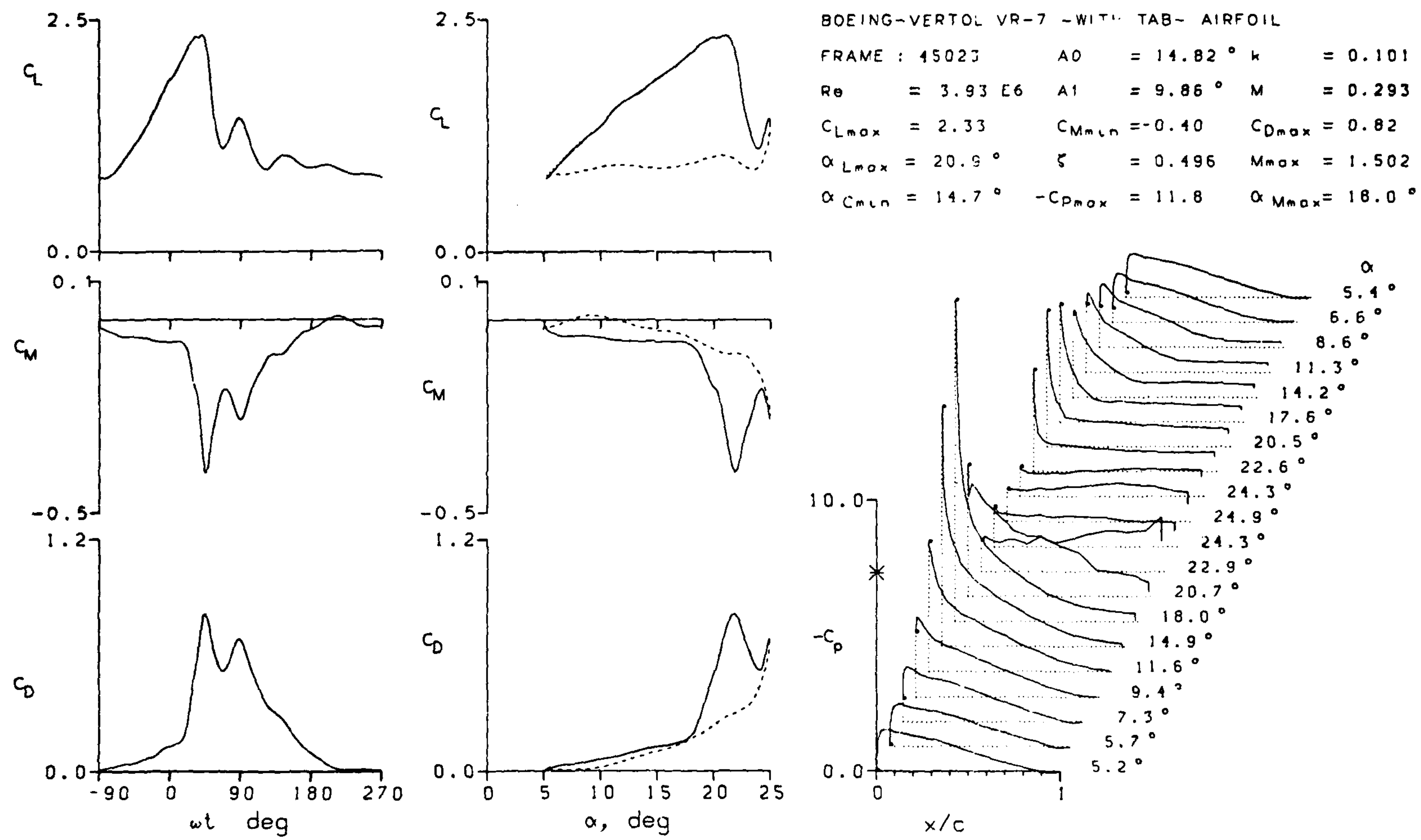

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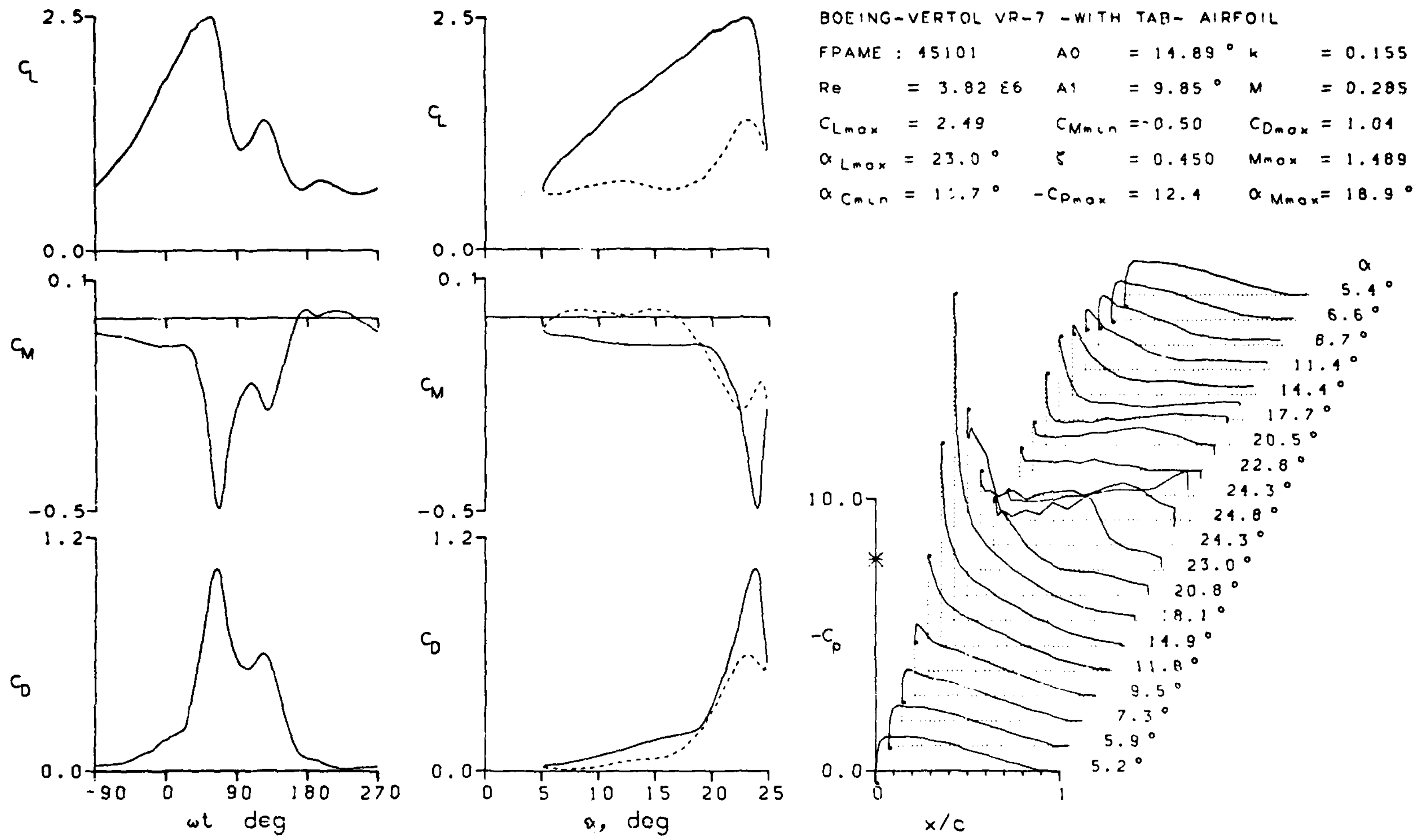

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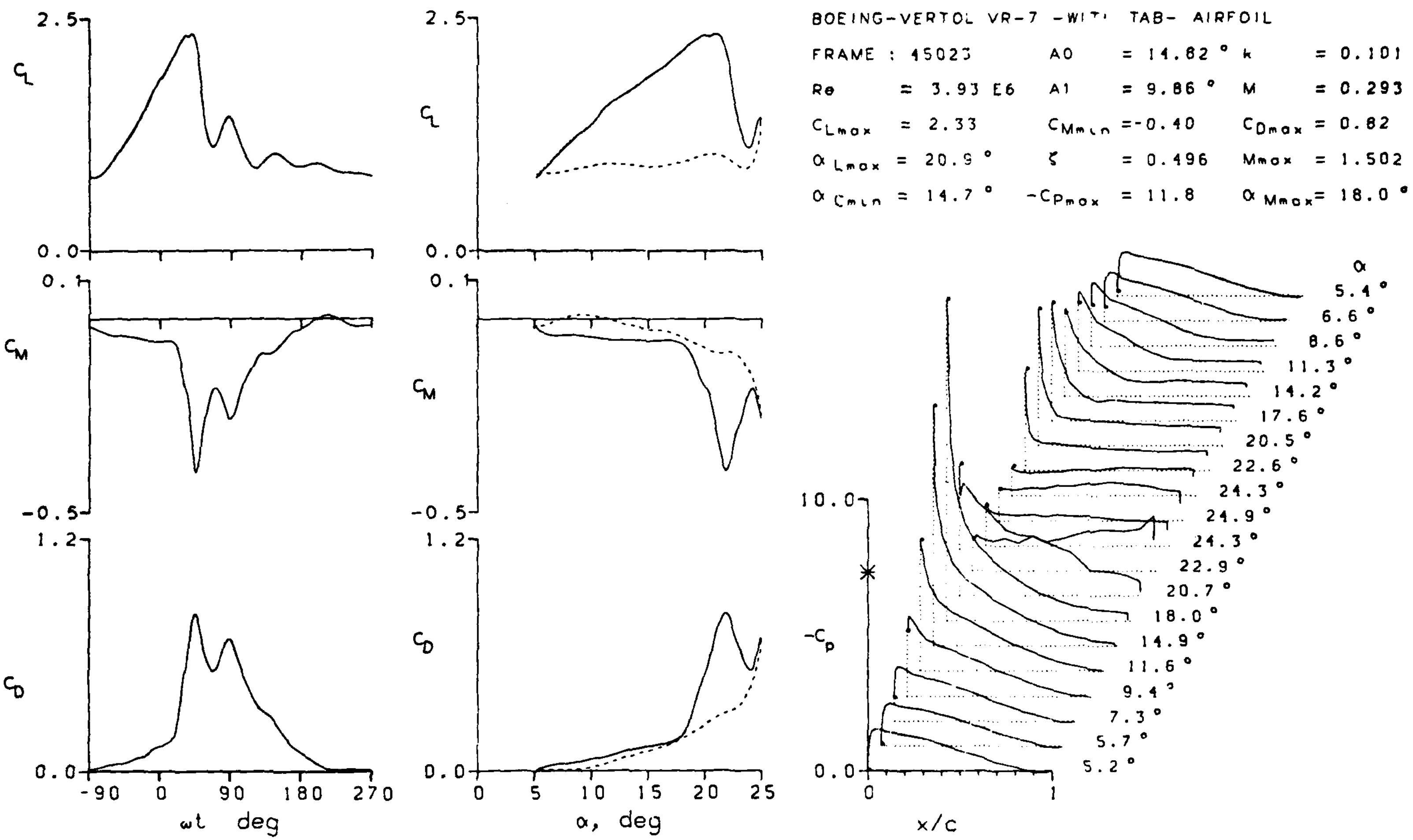

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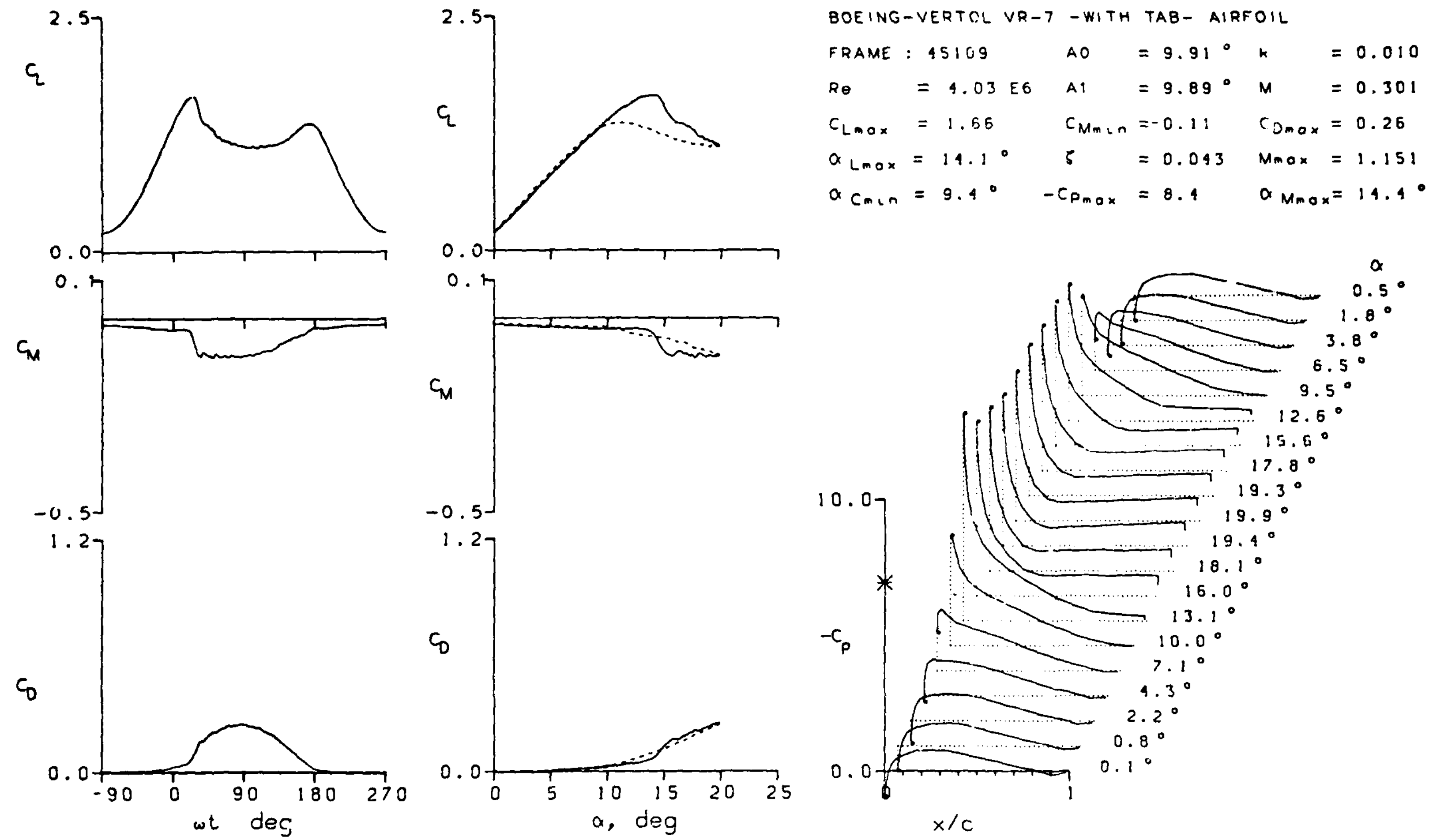

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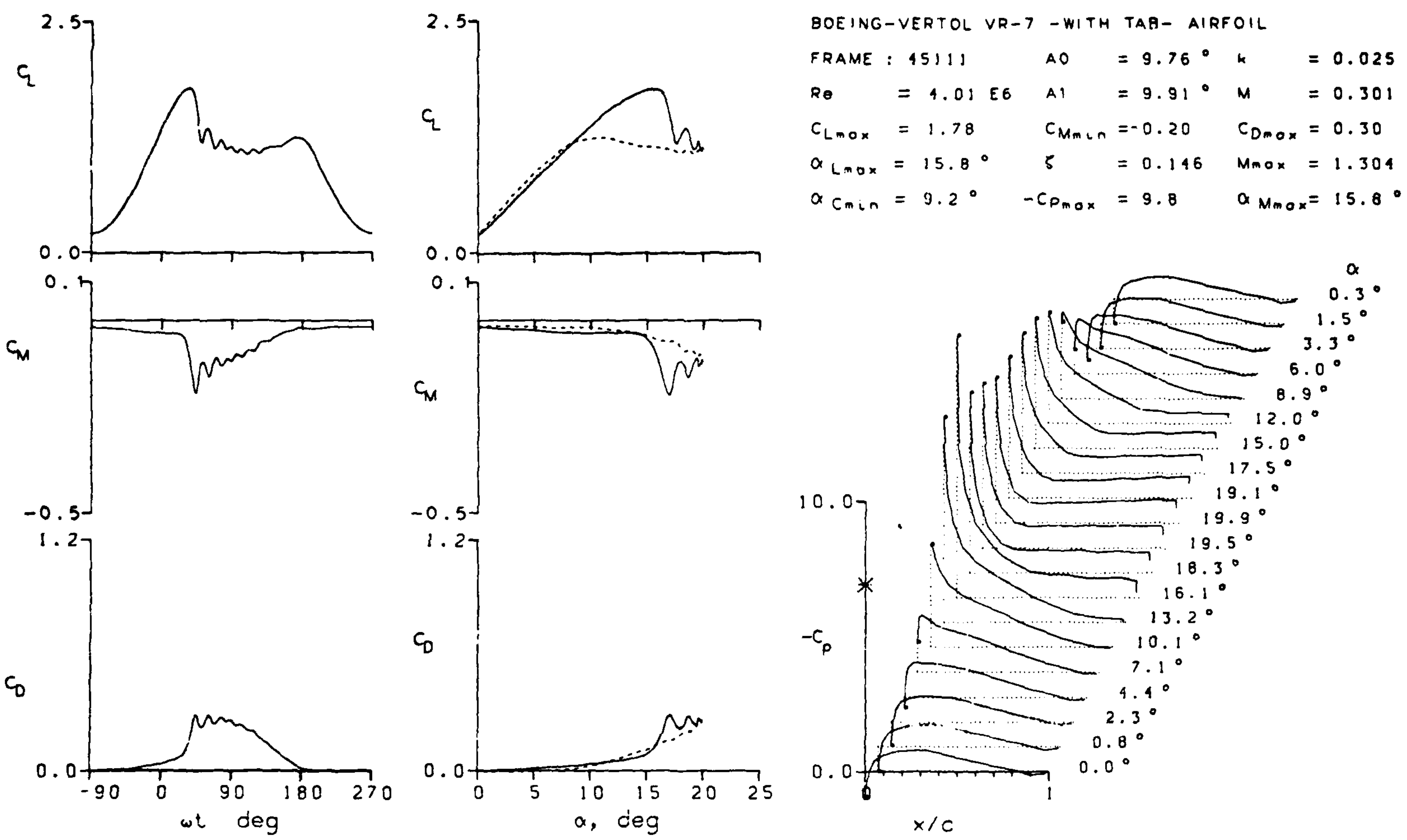

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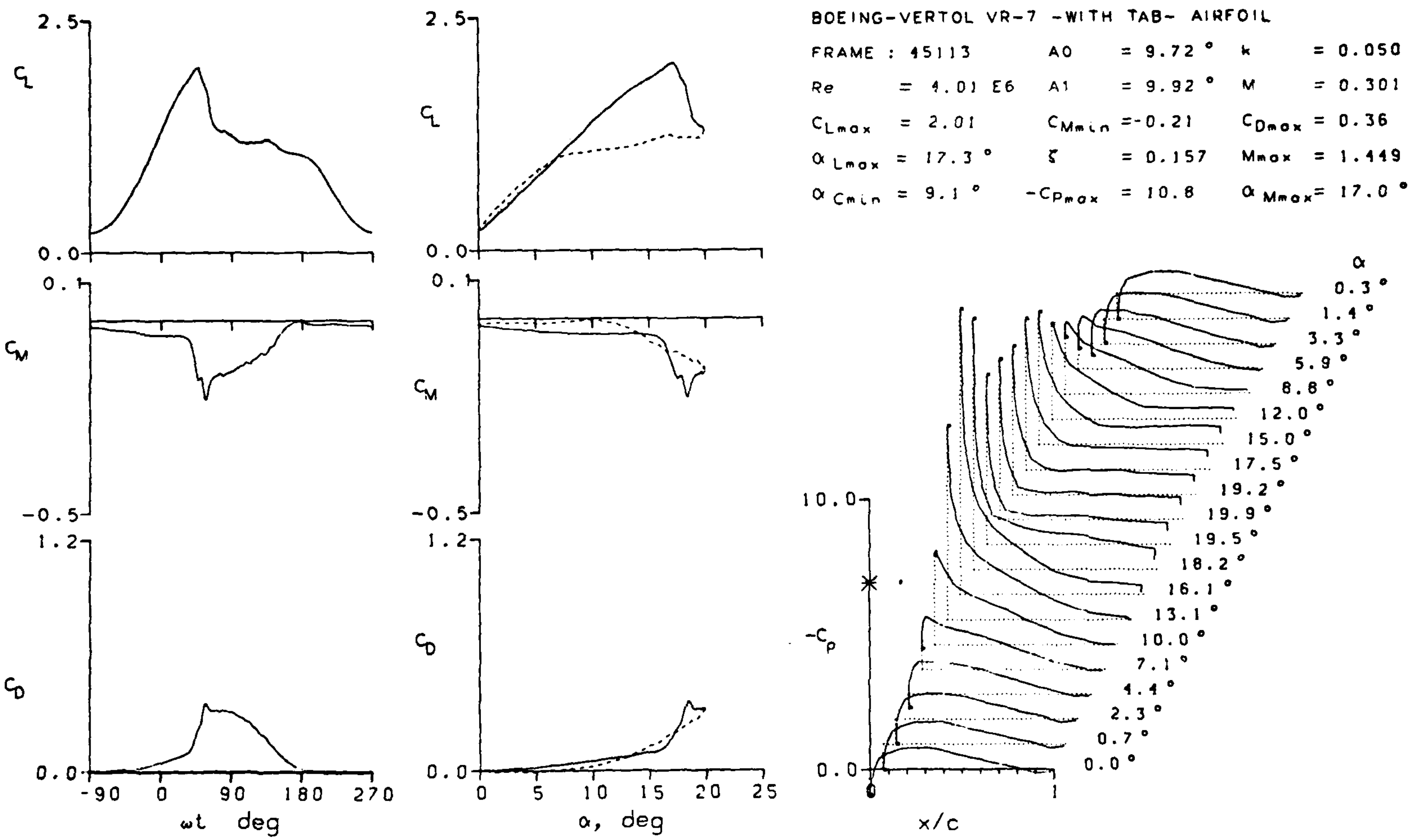

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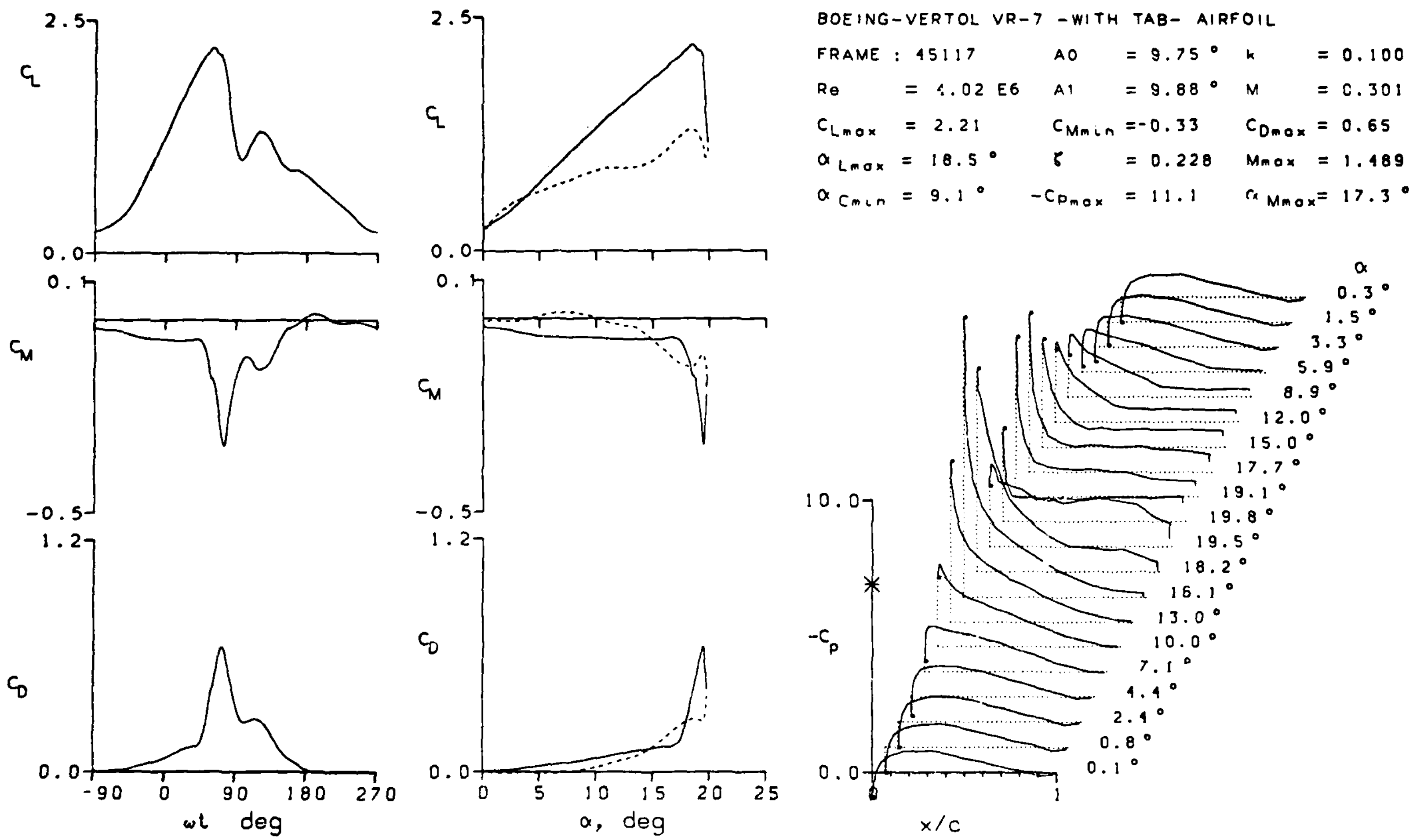

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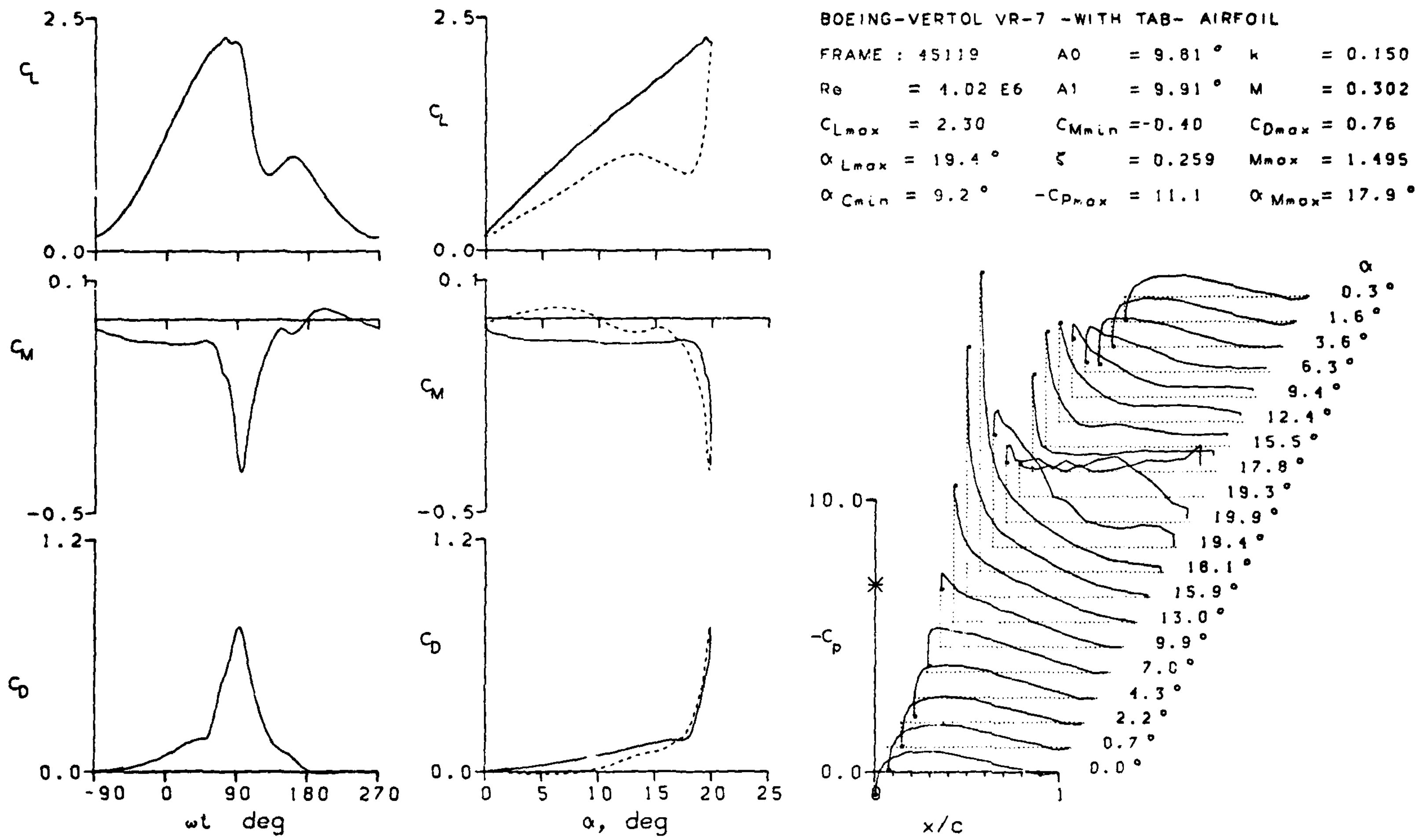

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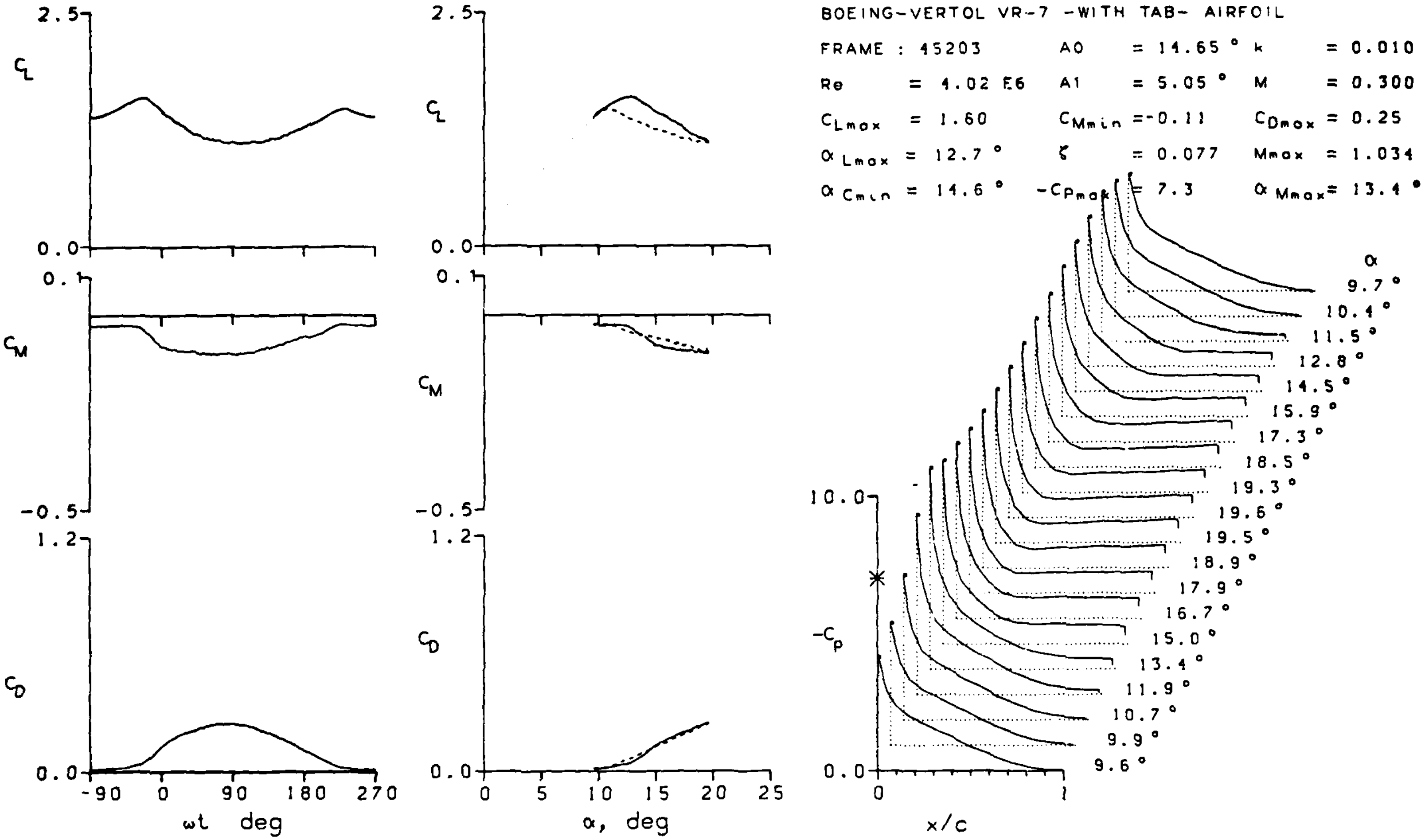

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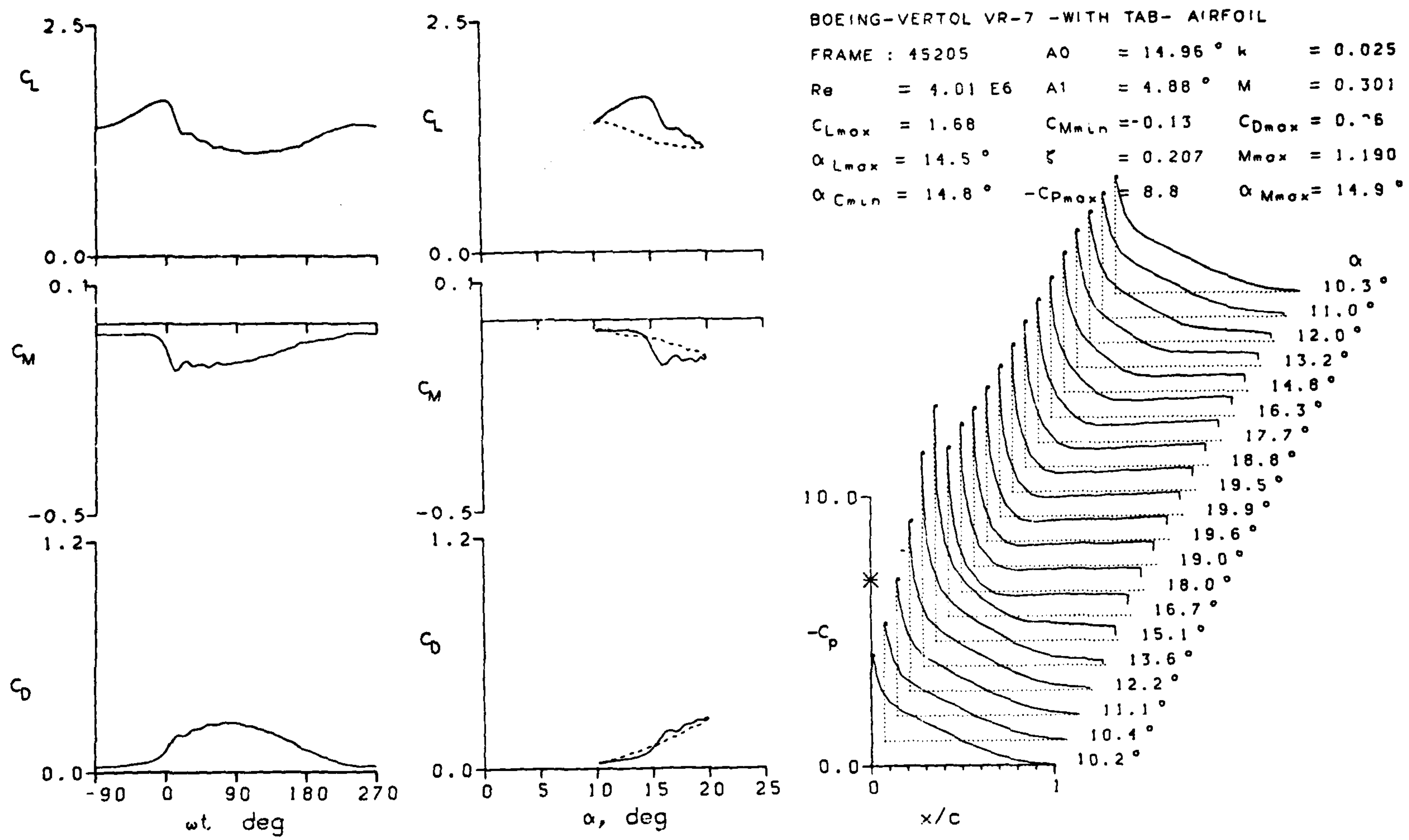

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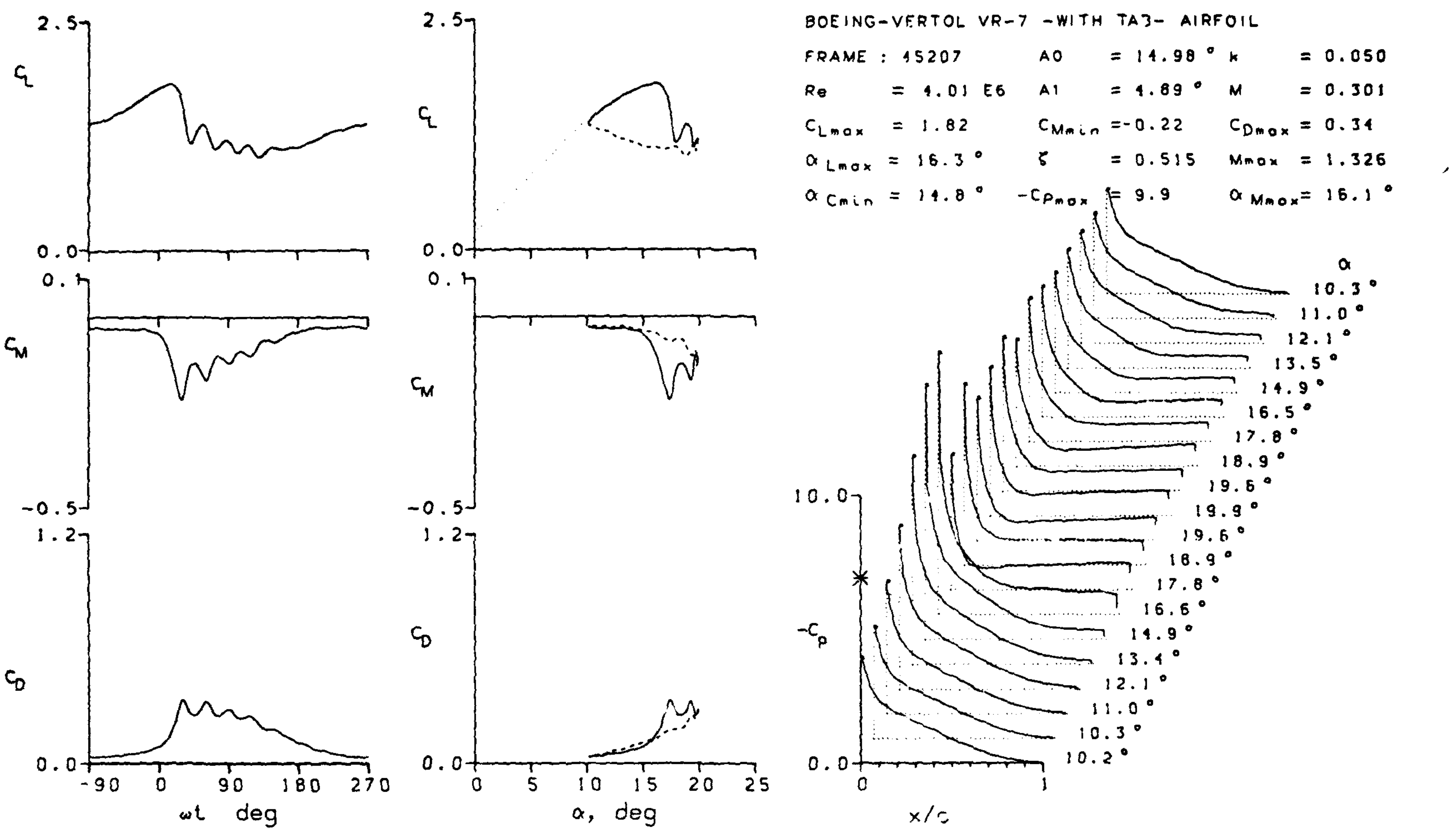

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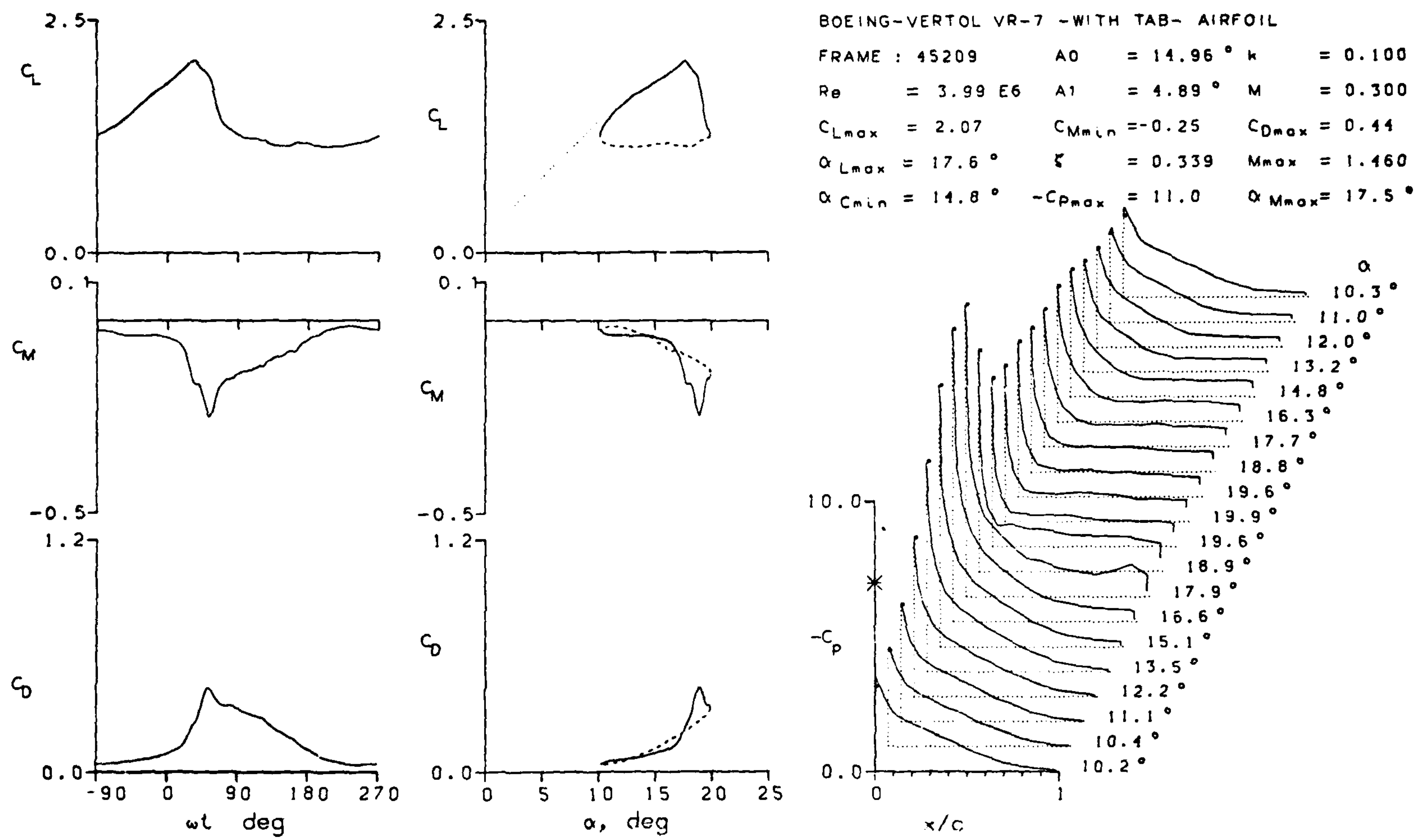

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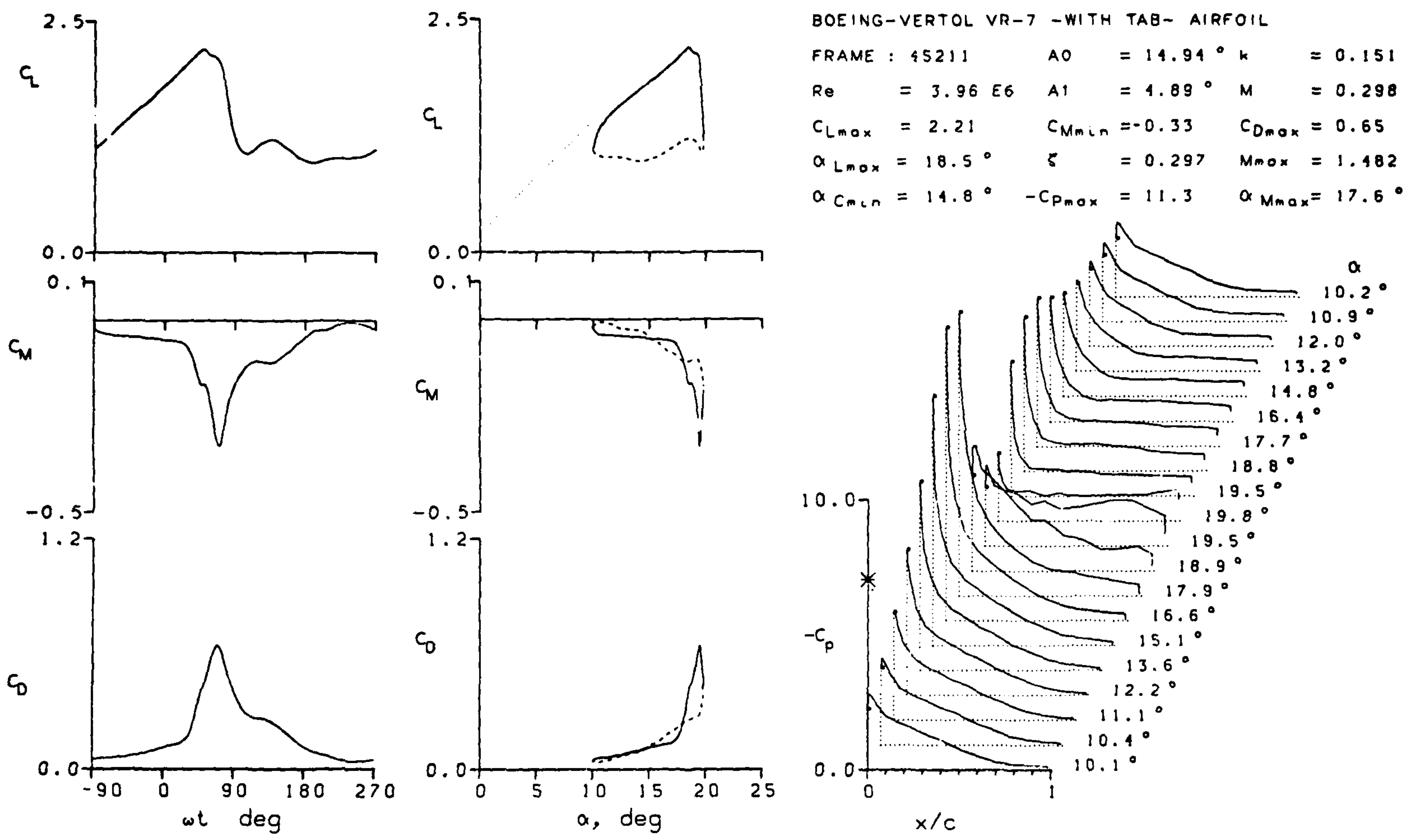

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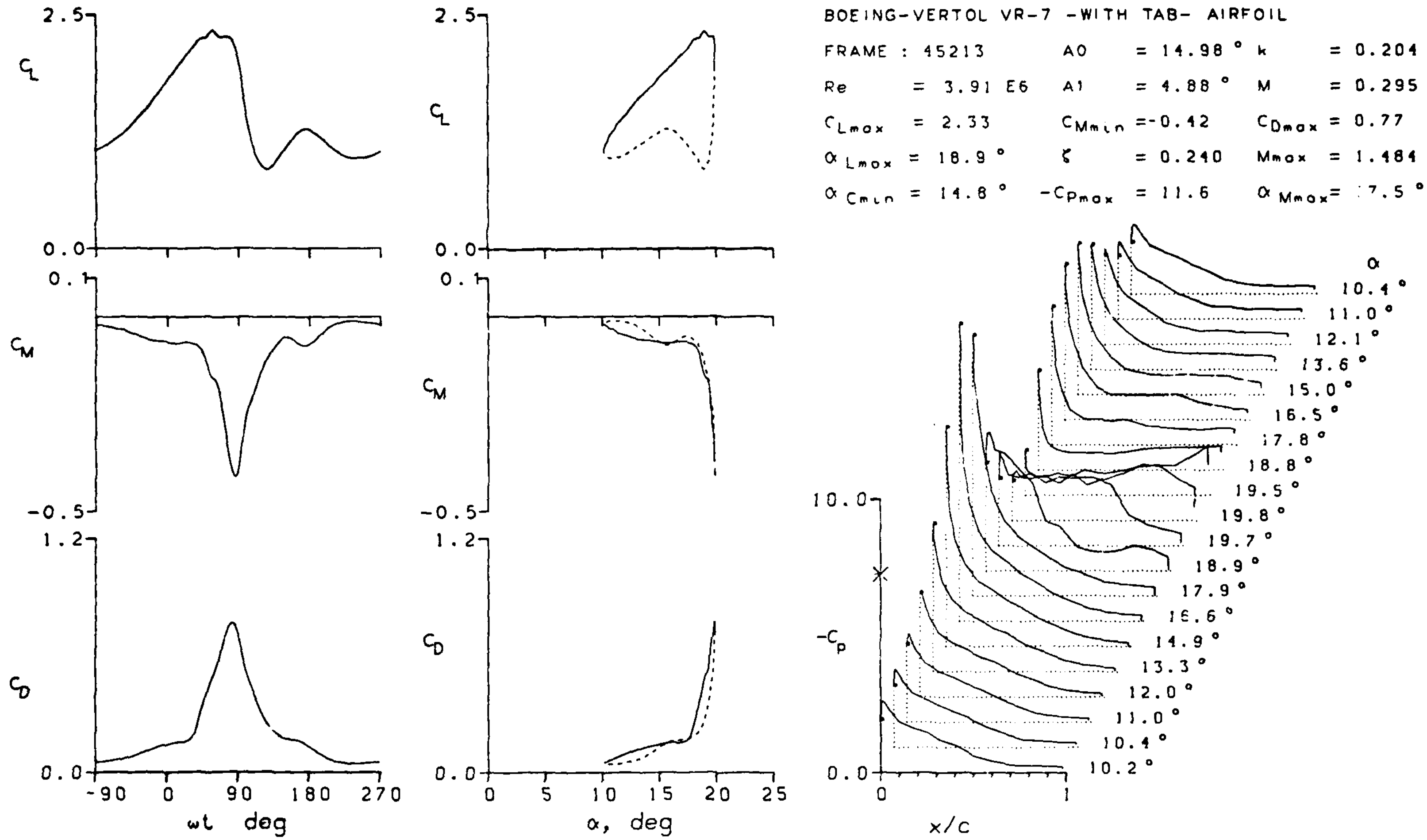

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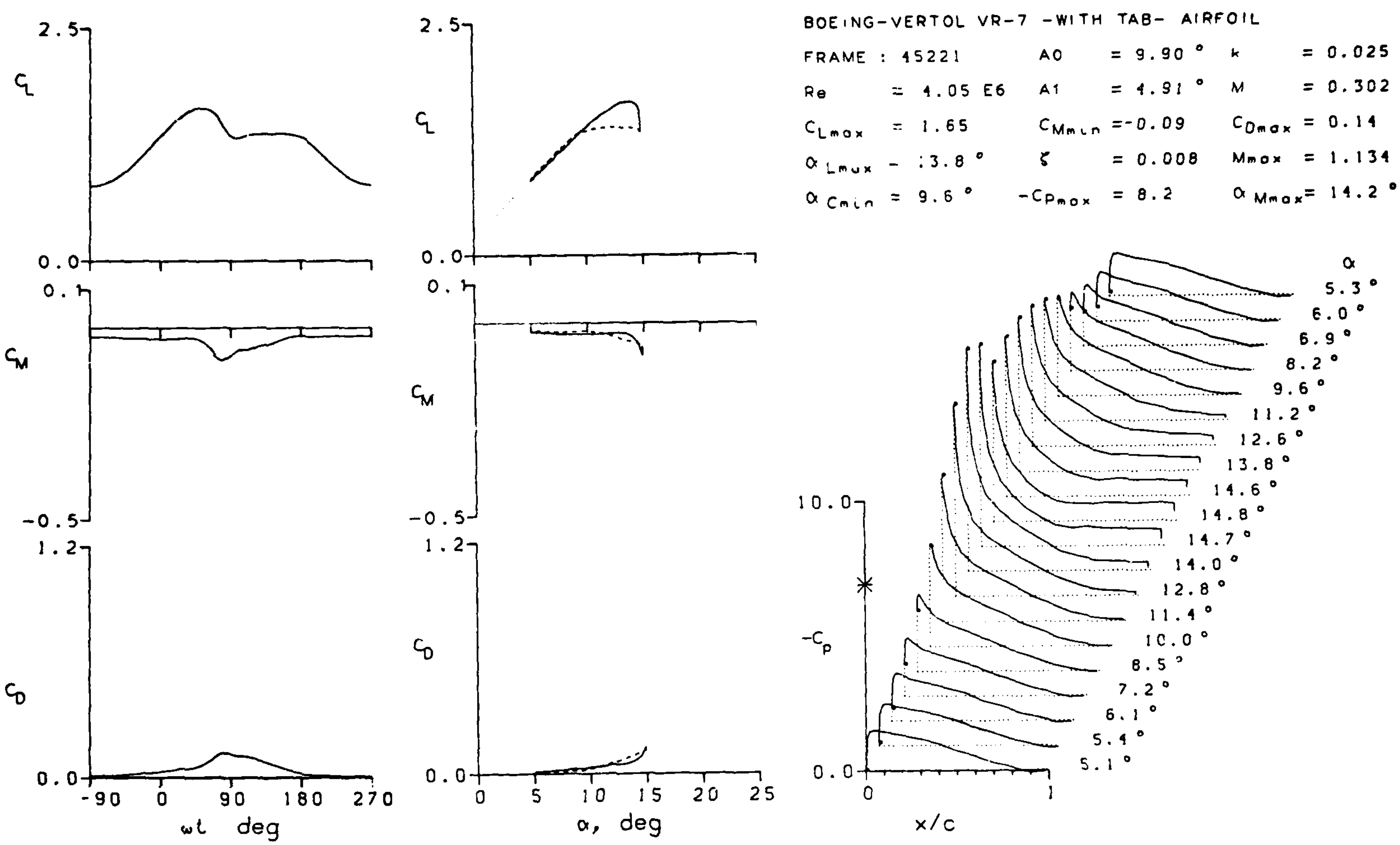

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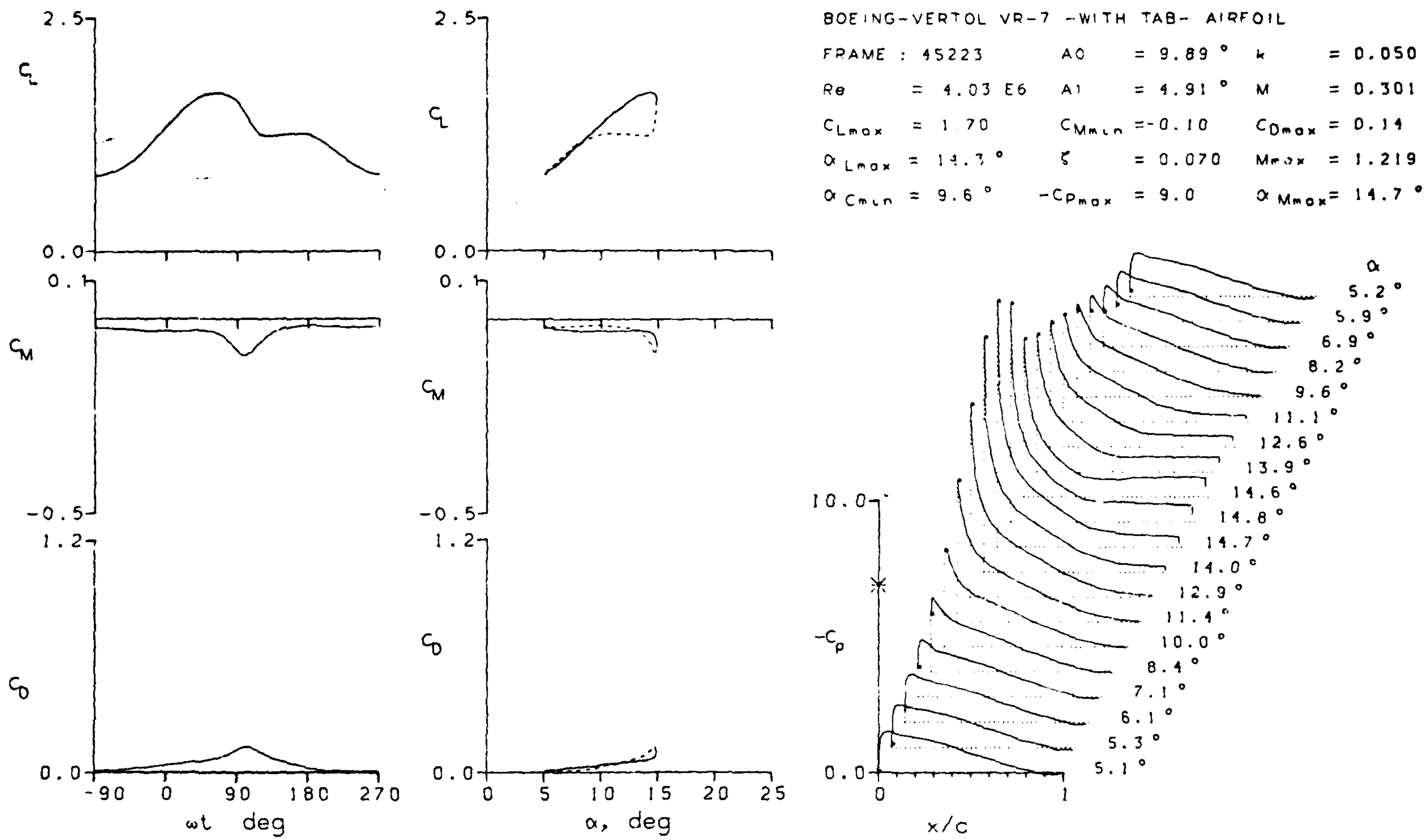

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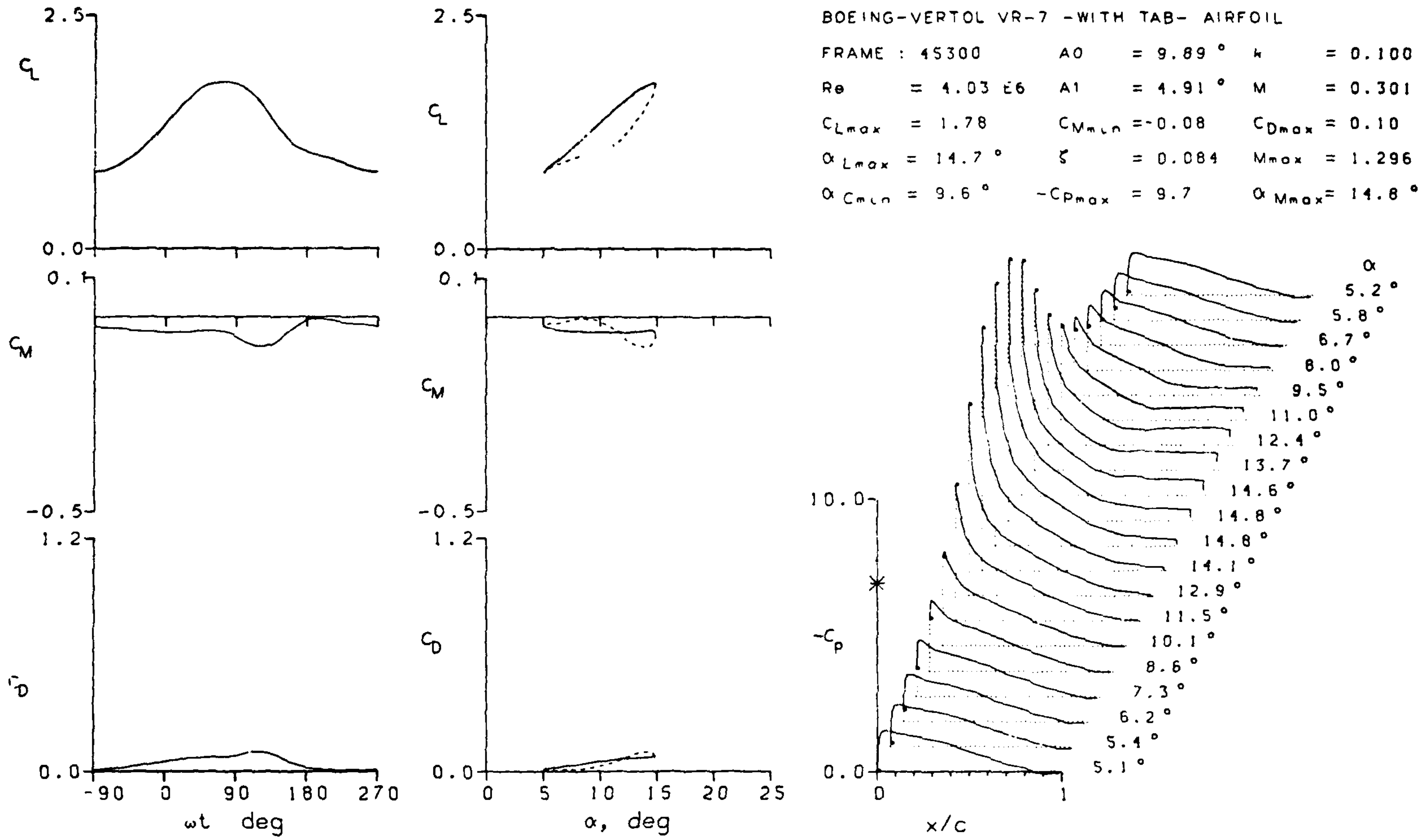

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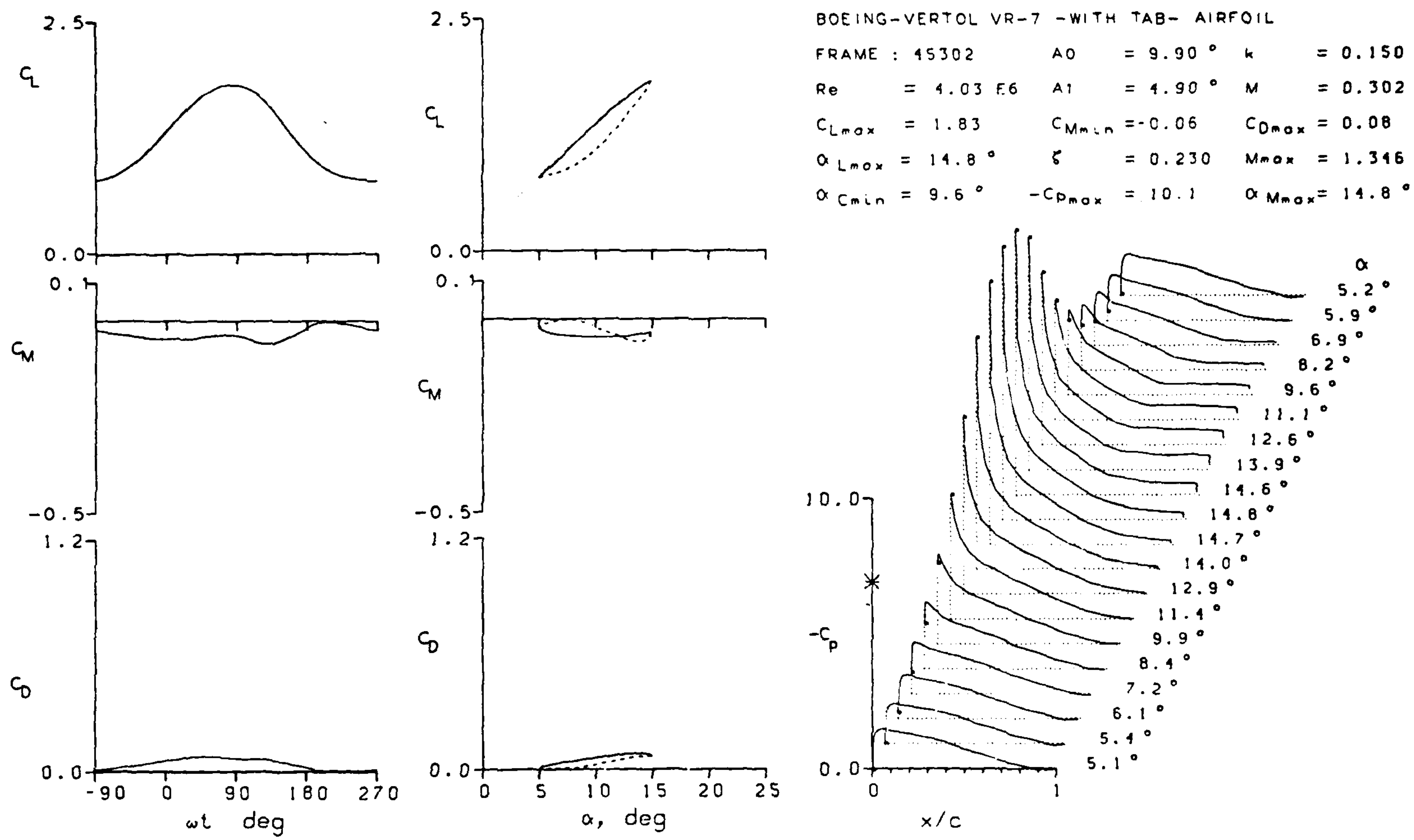

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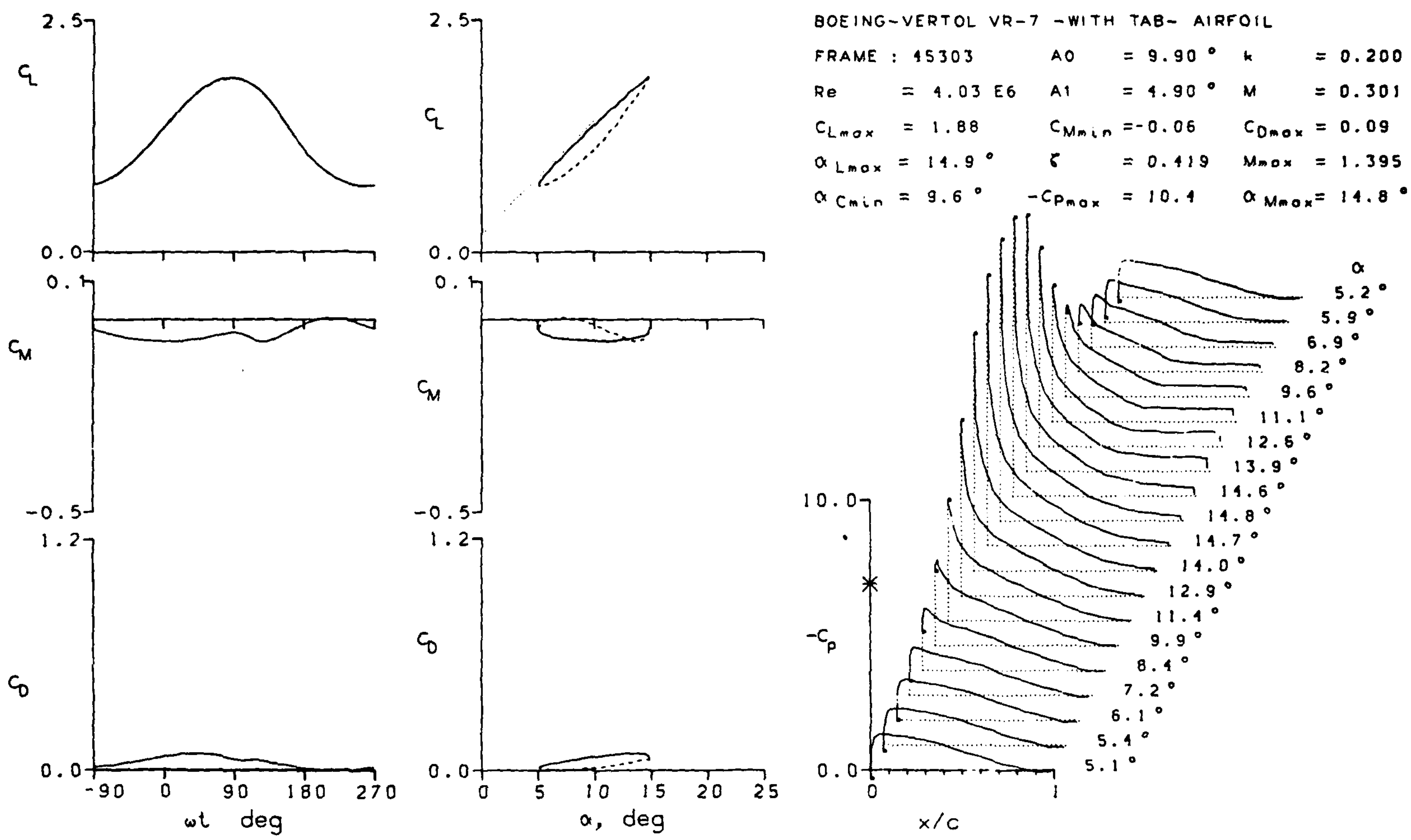

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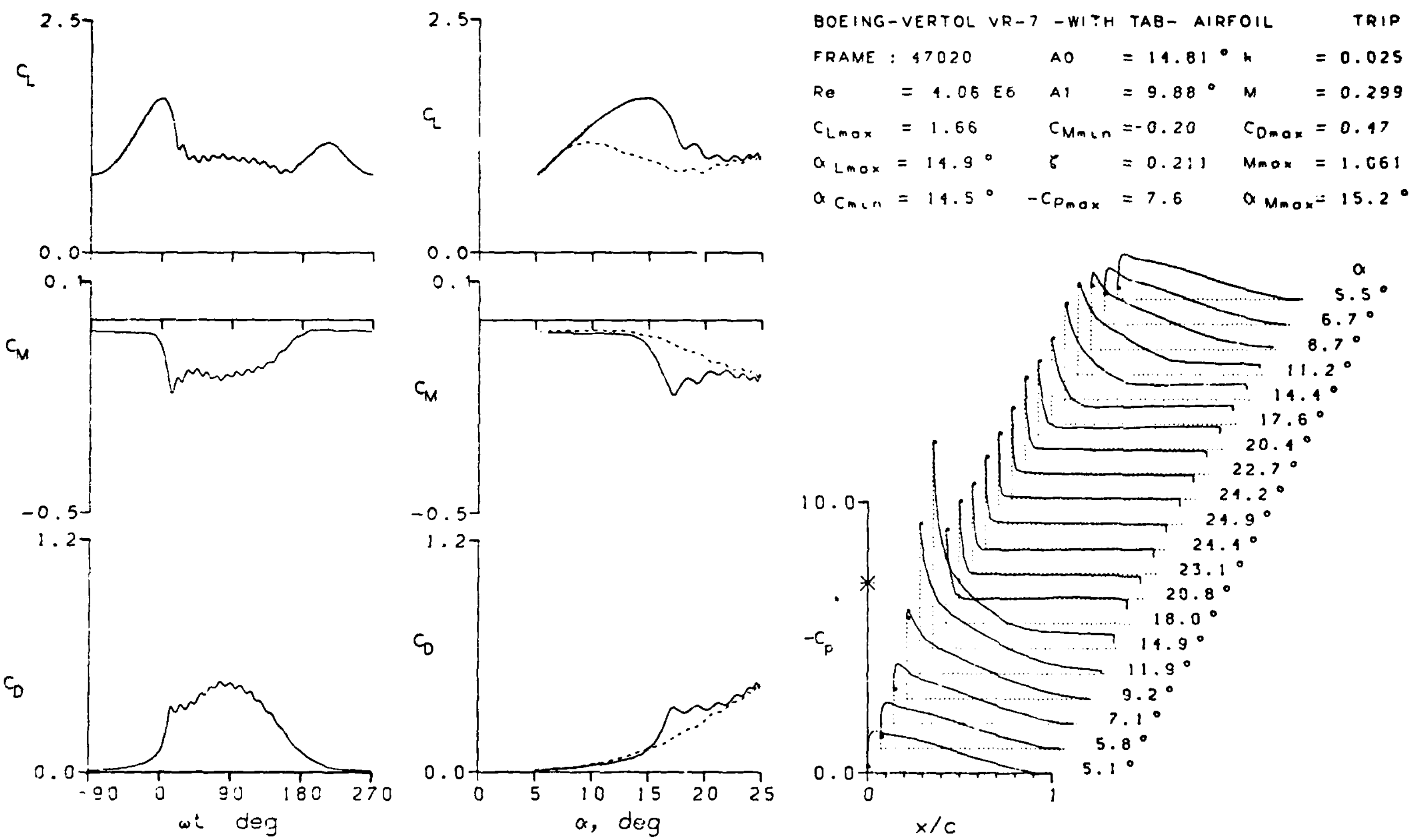

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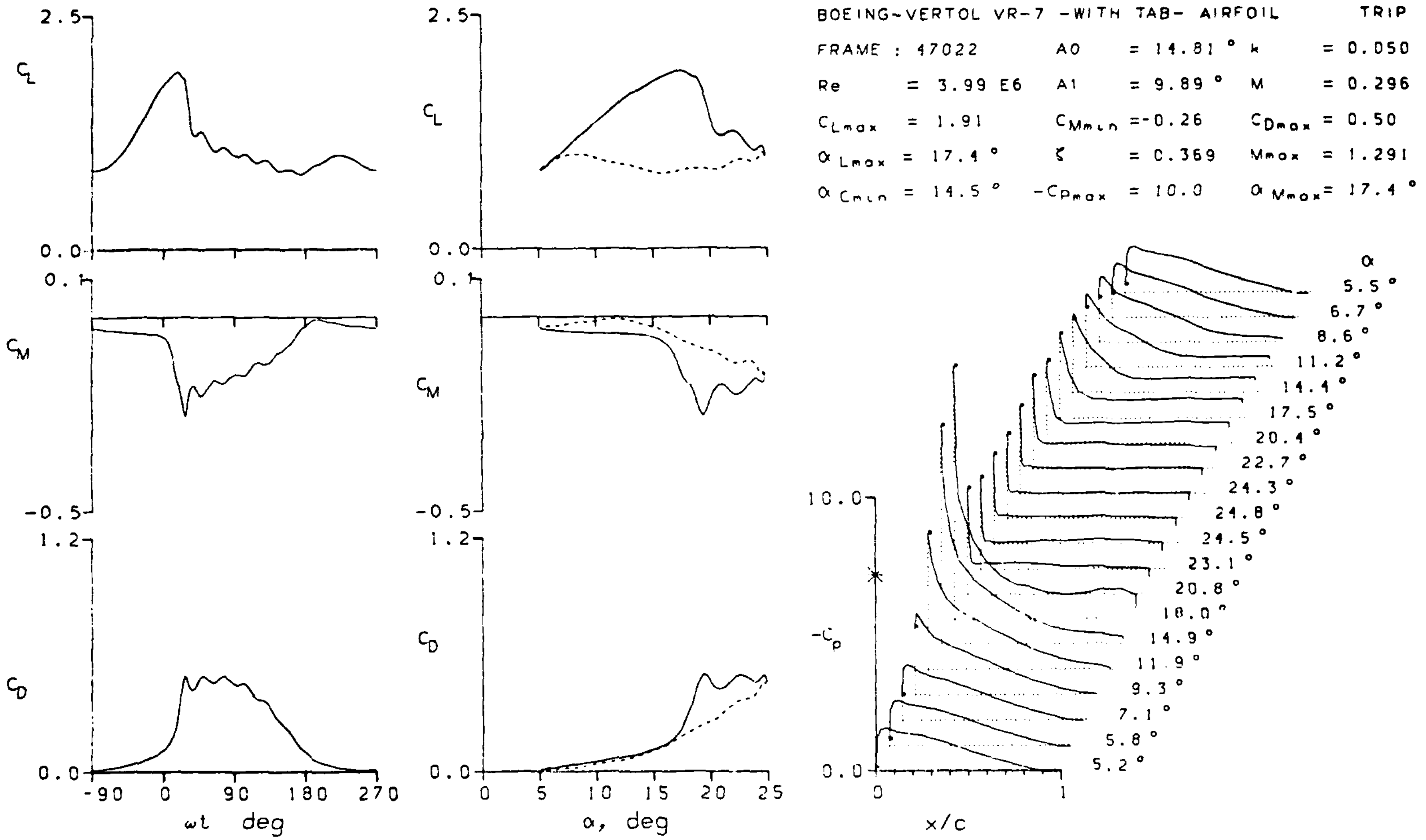

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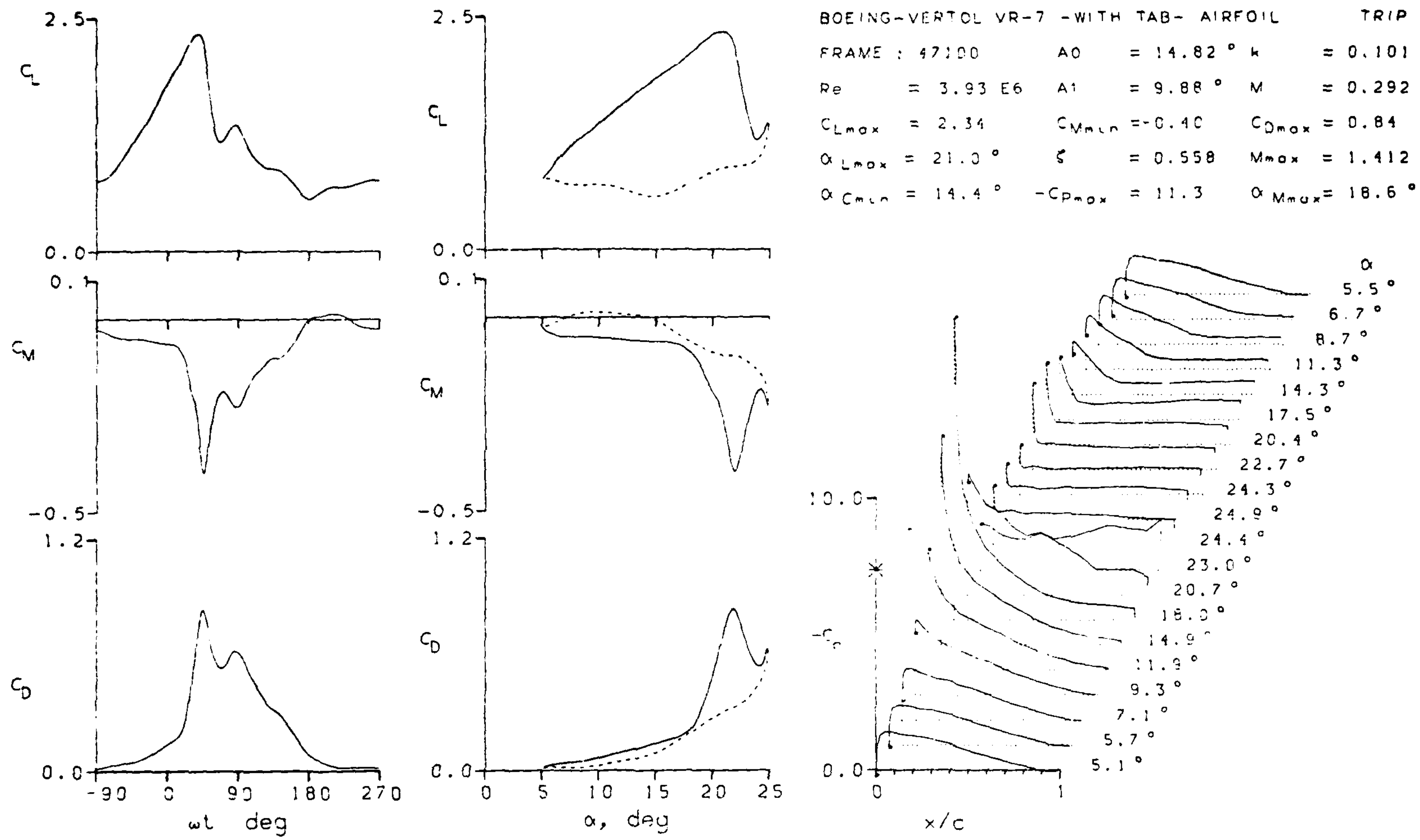

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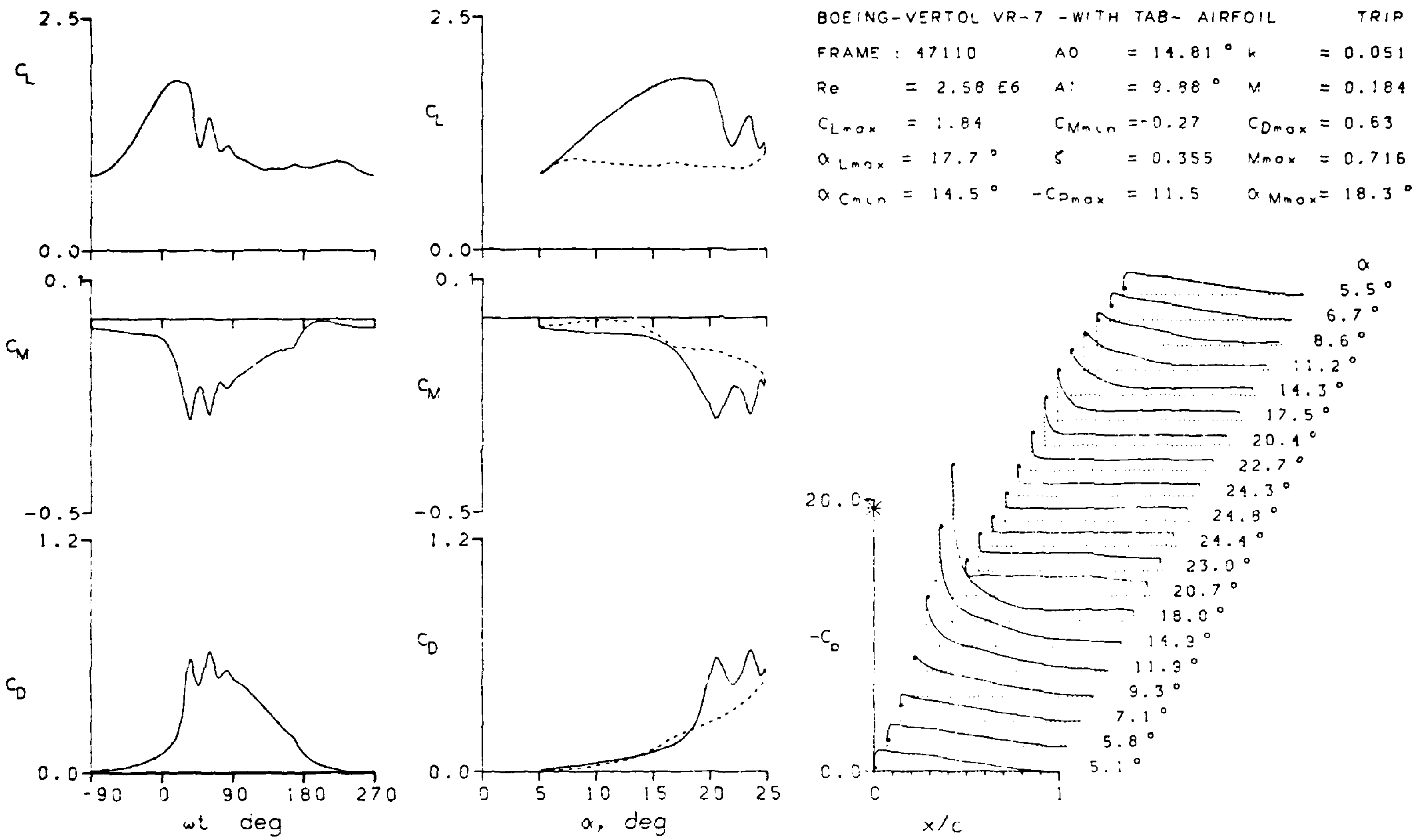

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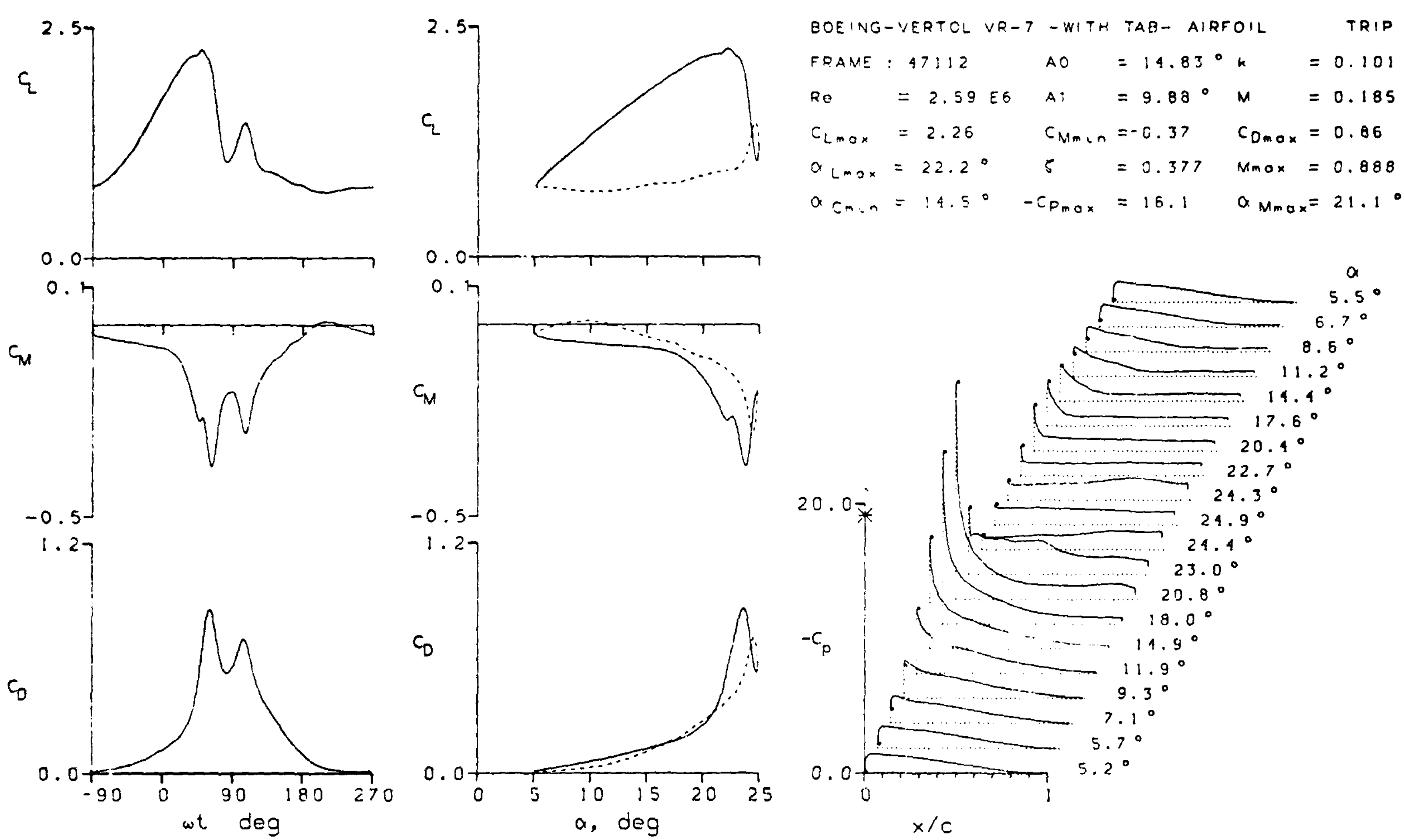

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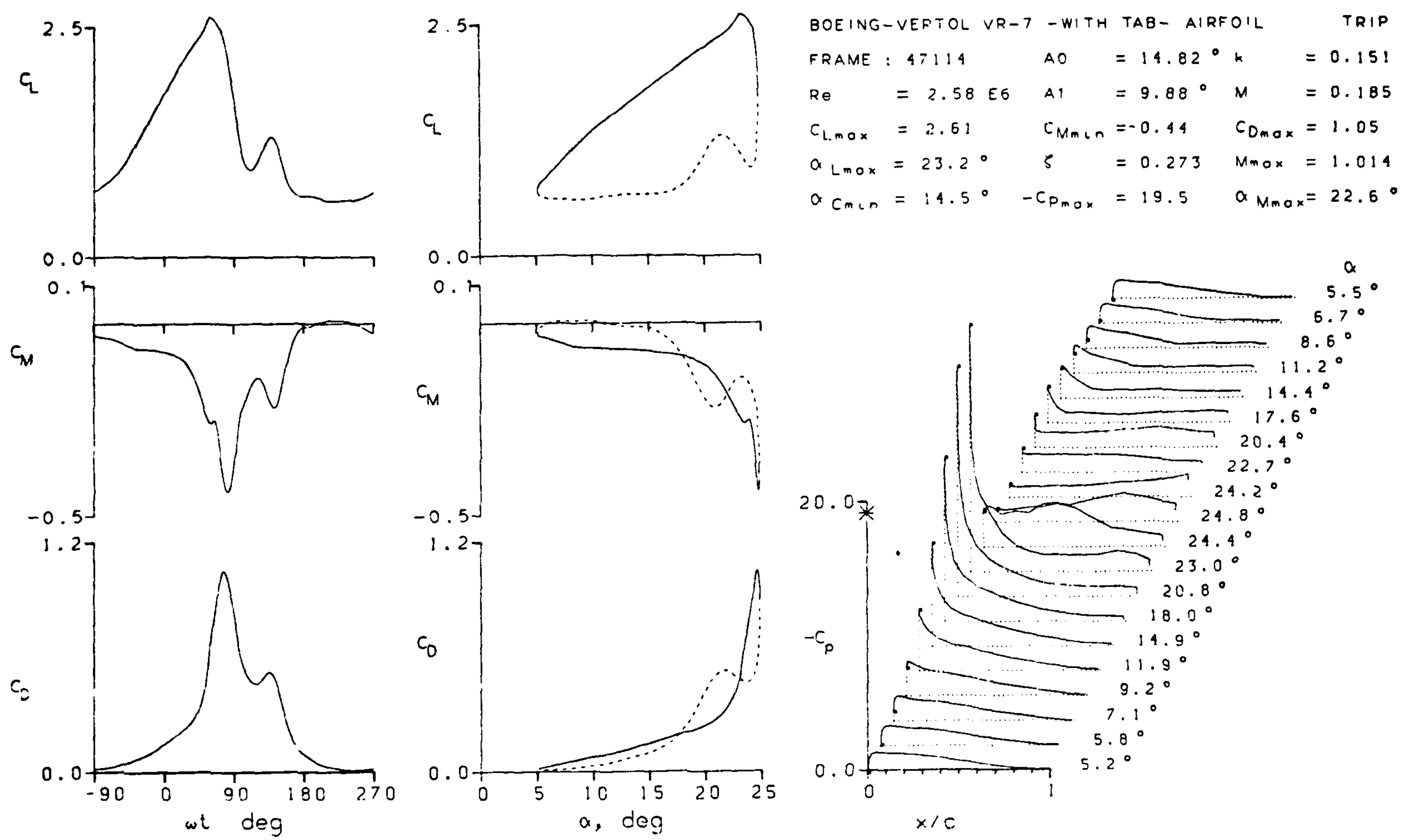

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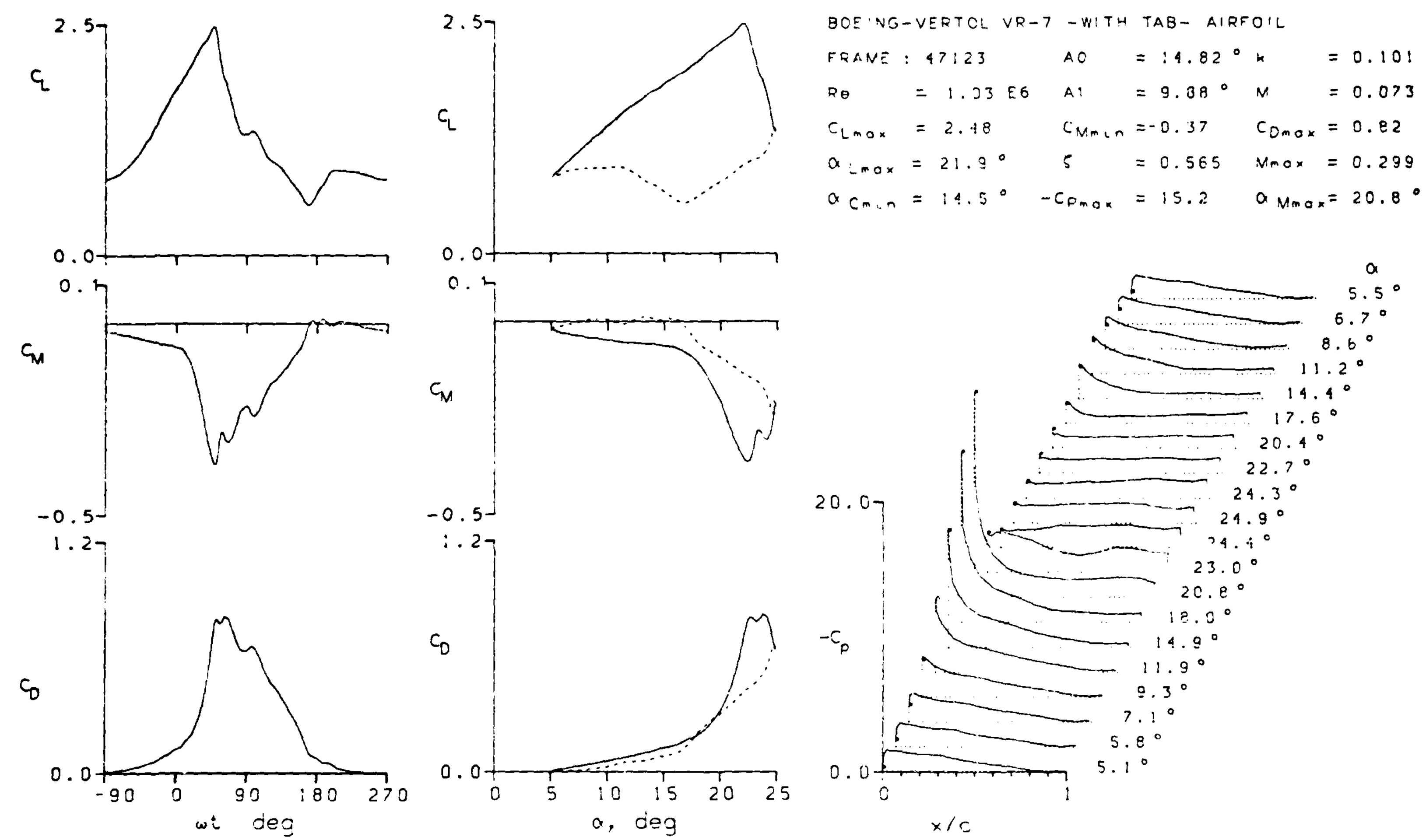

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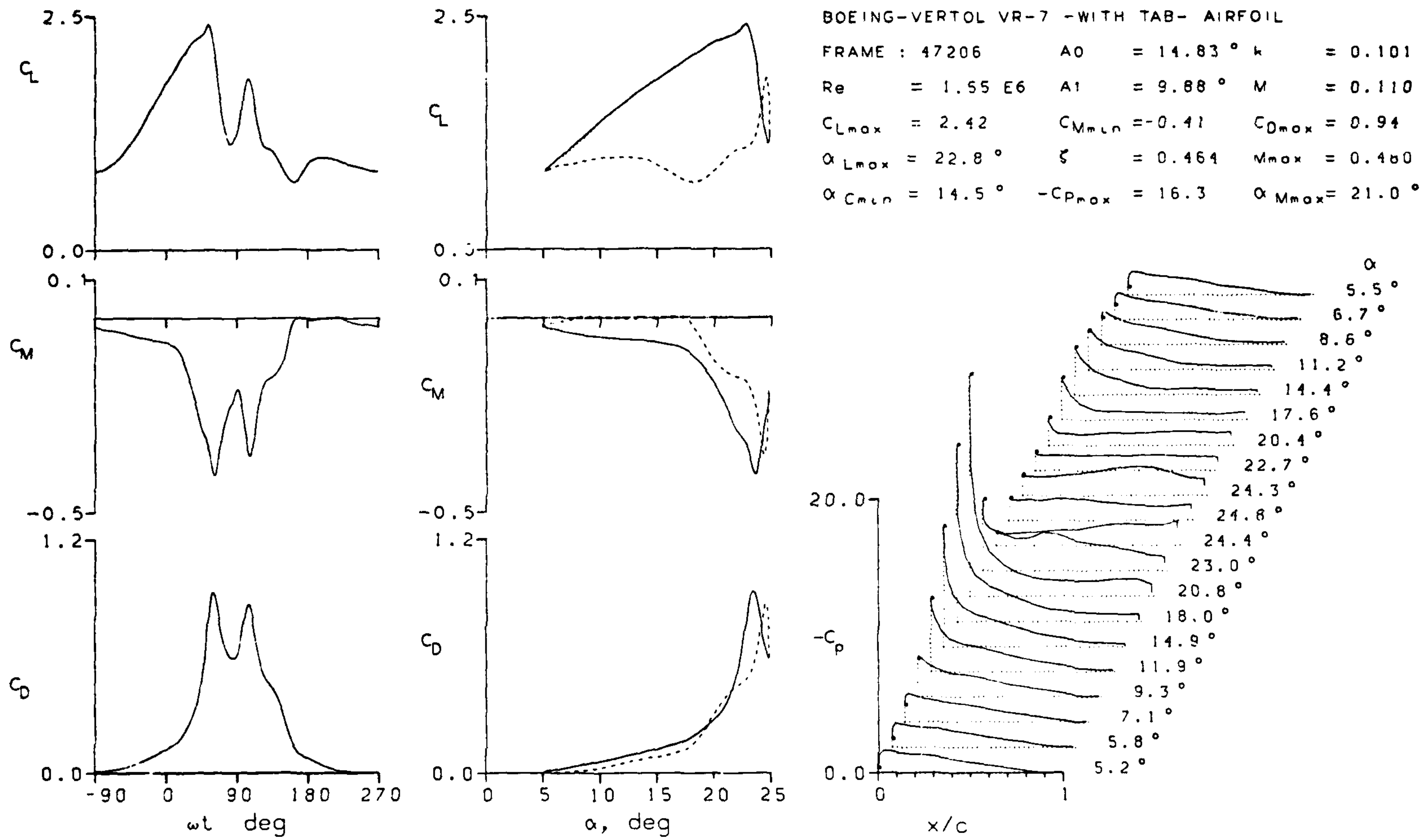

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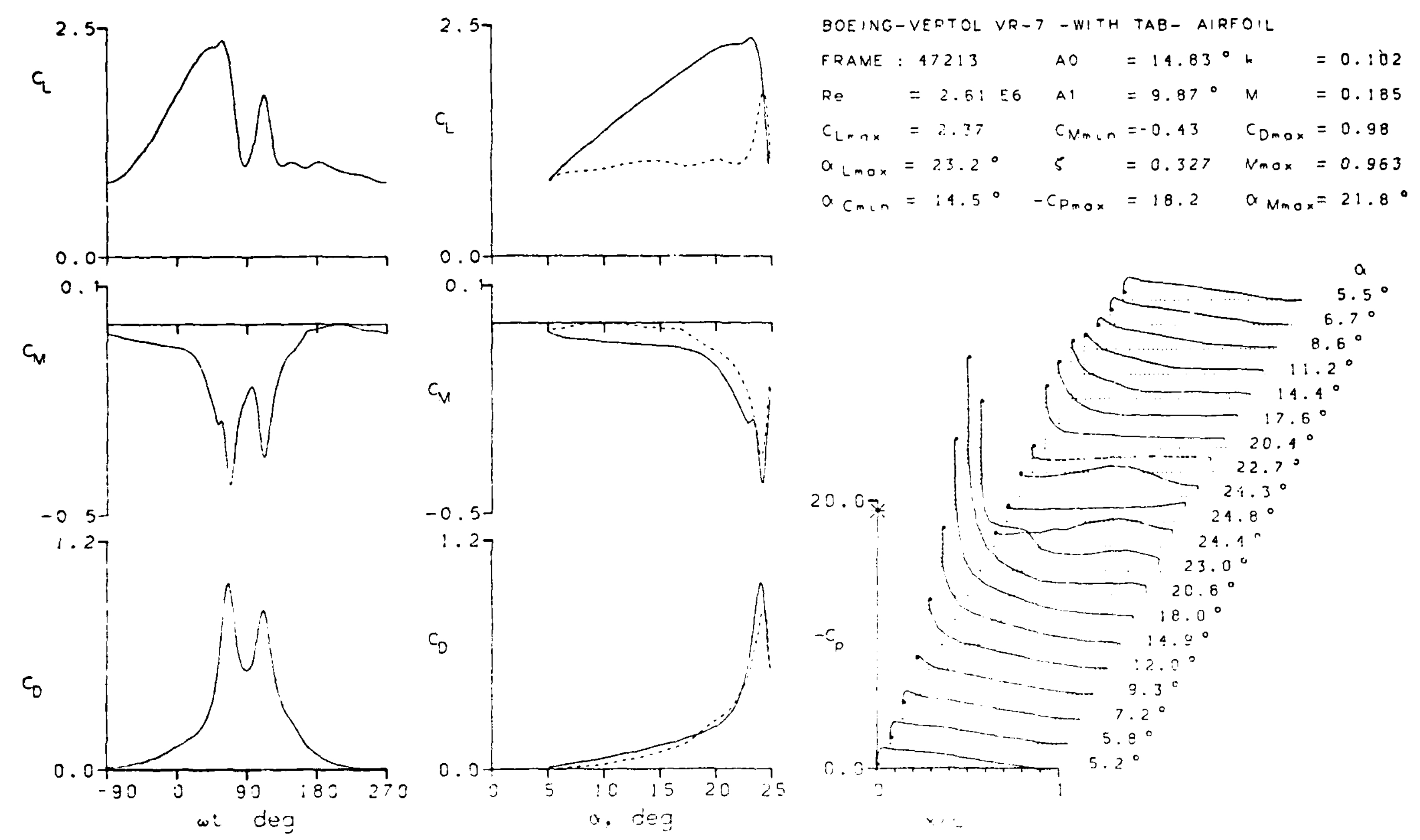

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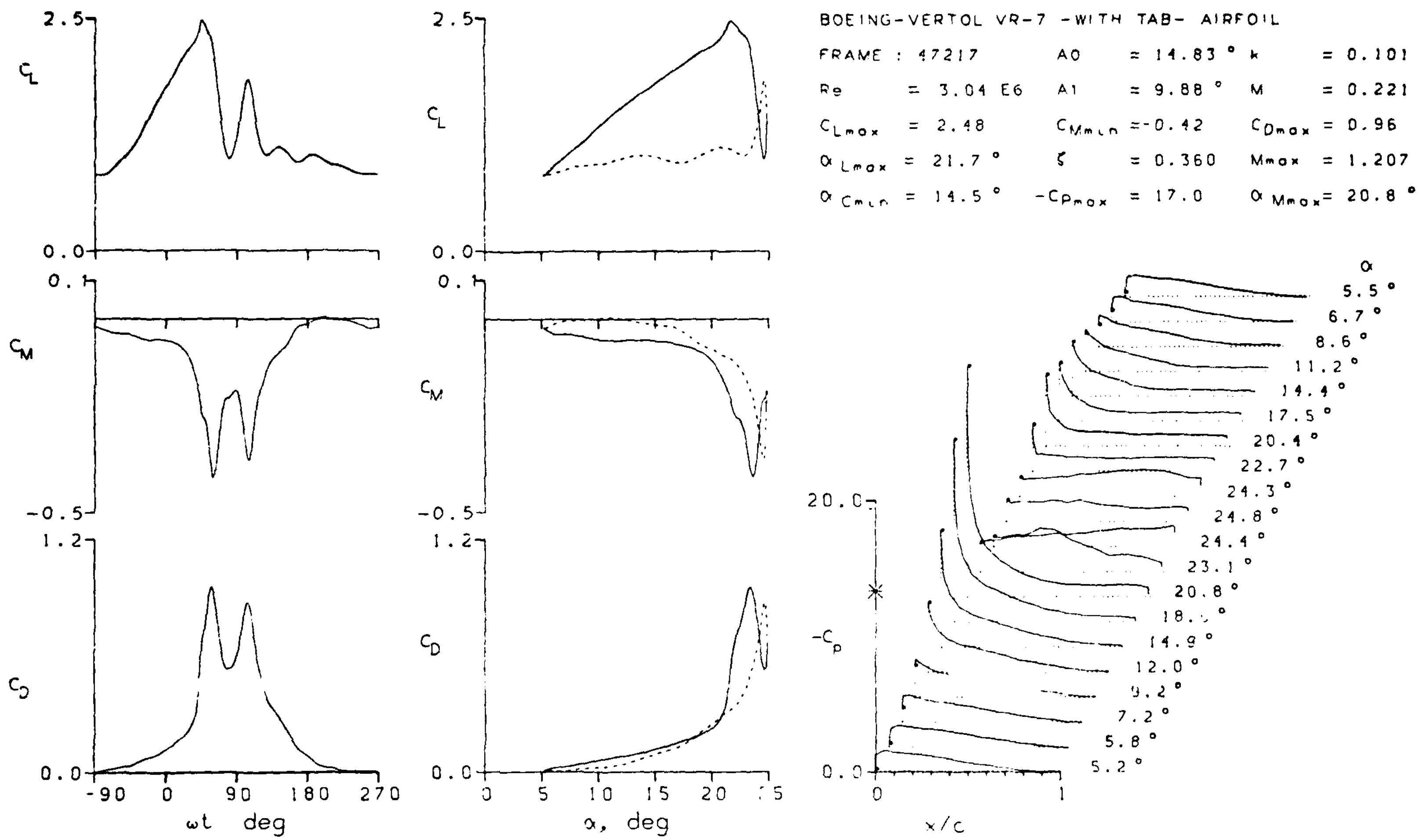

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AD-A121 598 AN EXPERIMENTAL STUDY OF DYNAMIC STALL ON ADVANCED AIRFOIL SECTIONS VOLUM..(U) NATIONAL AERONUATICS AND SPACE ADMINISTRATION MOFFETT FIELD C.. 6/7

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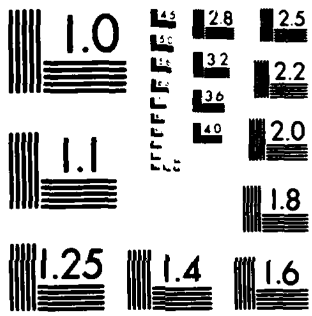

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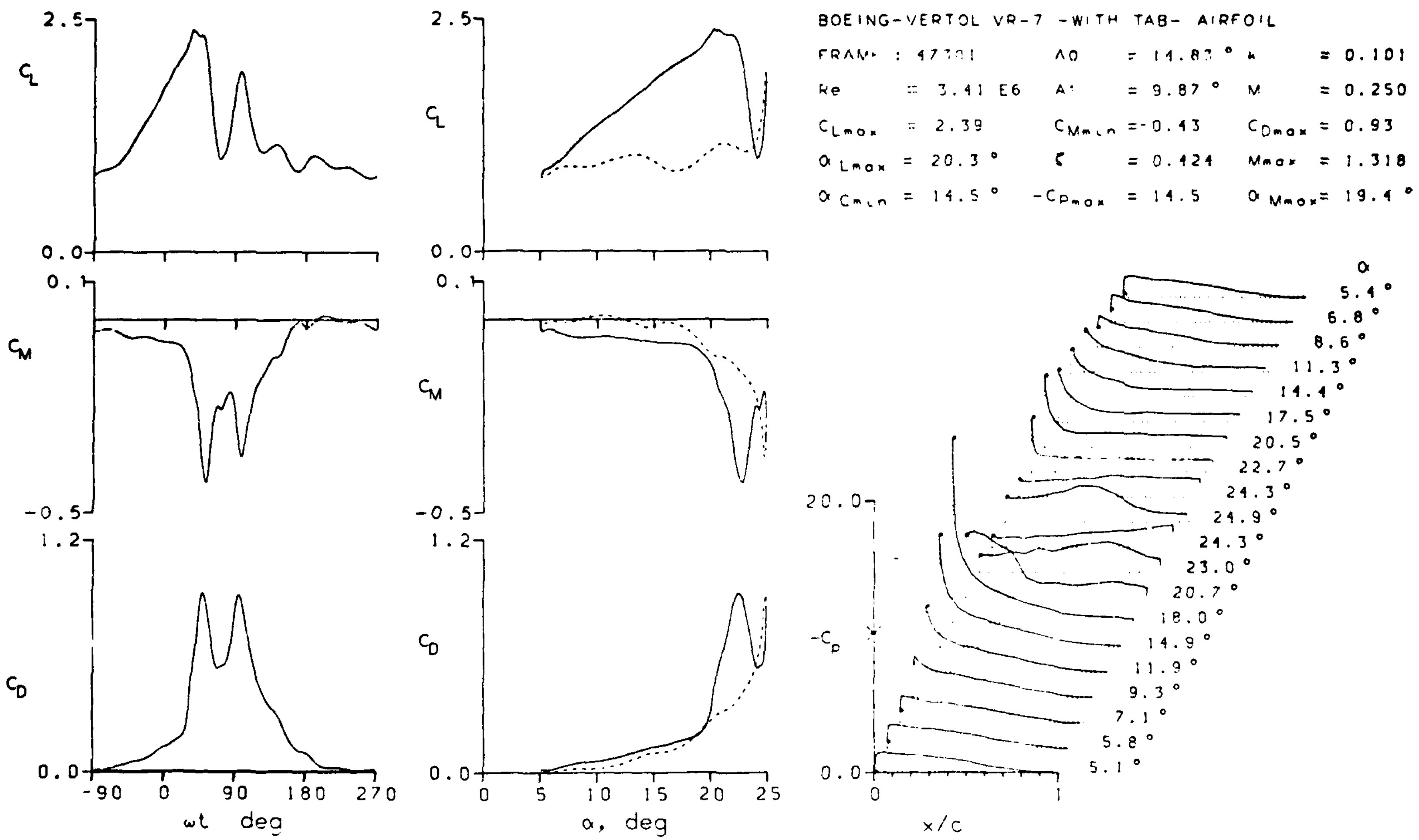

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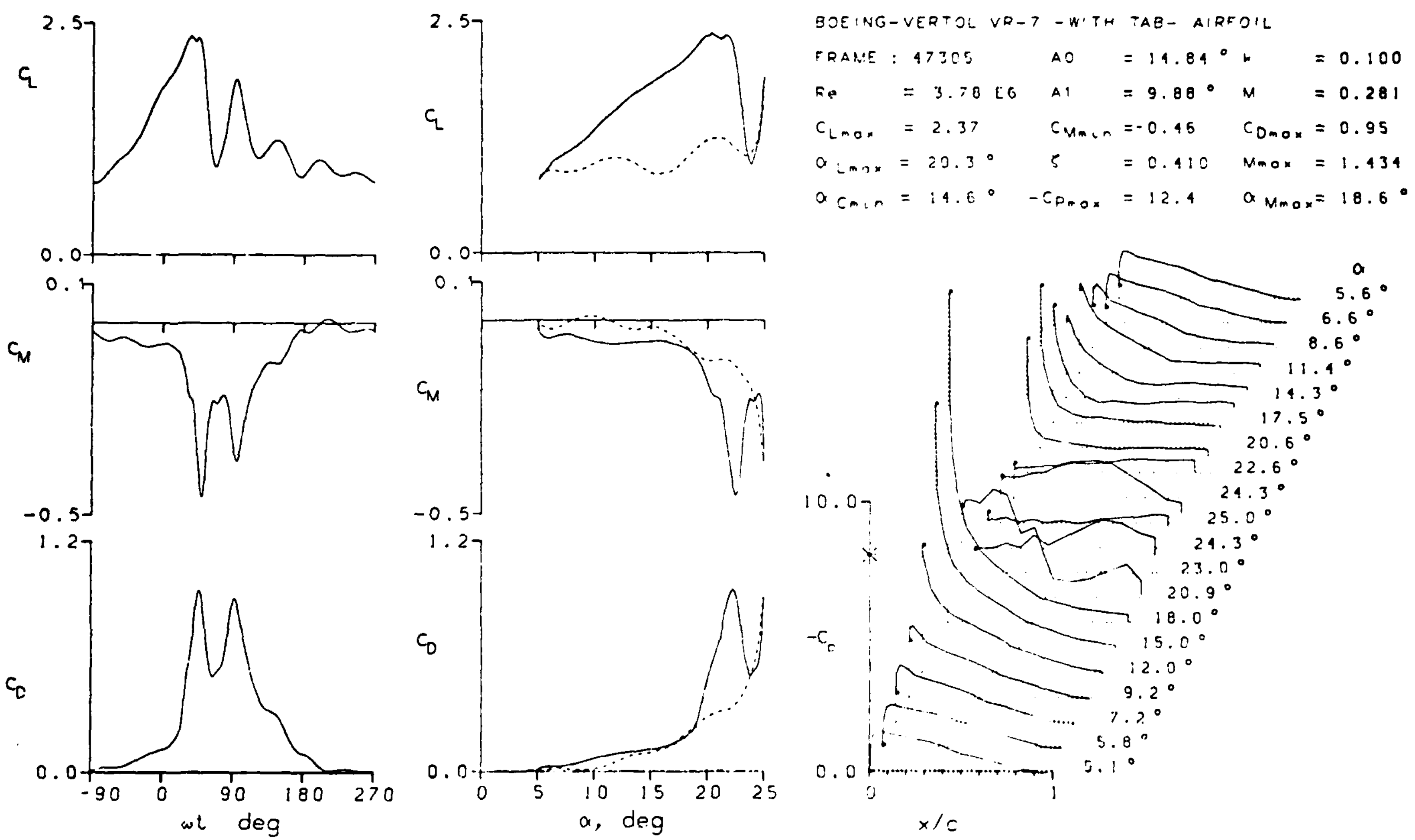

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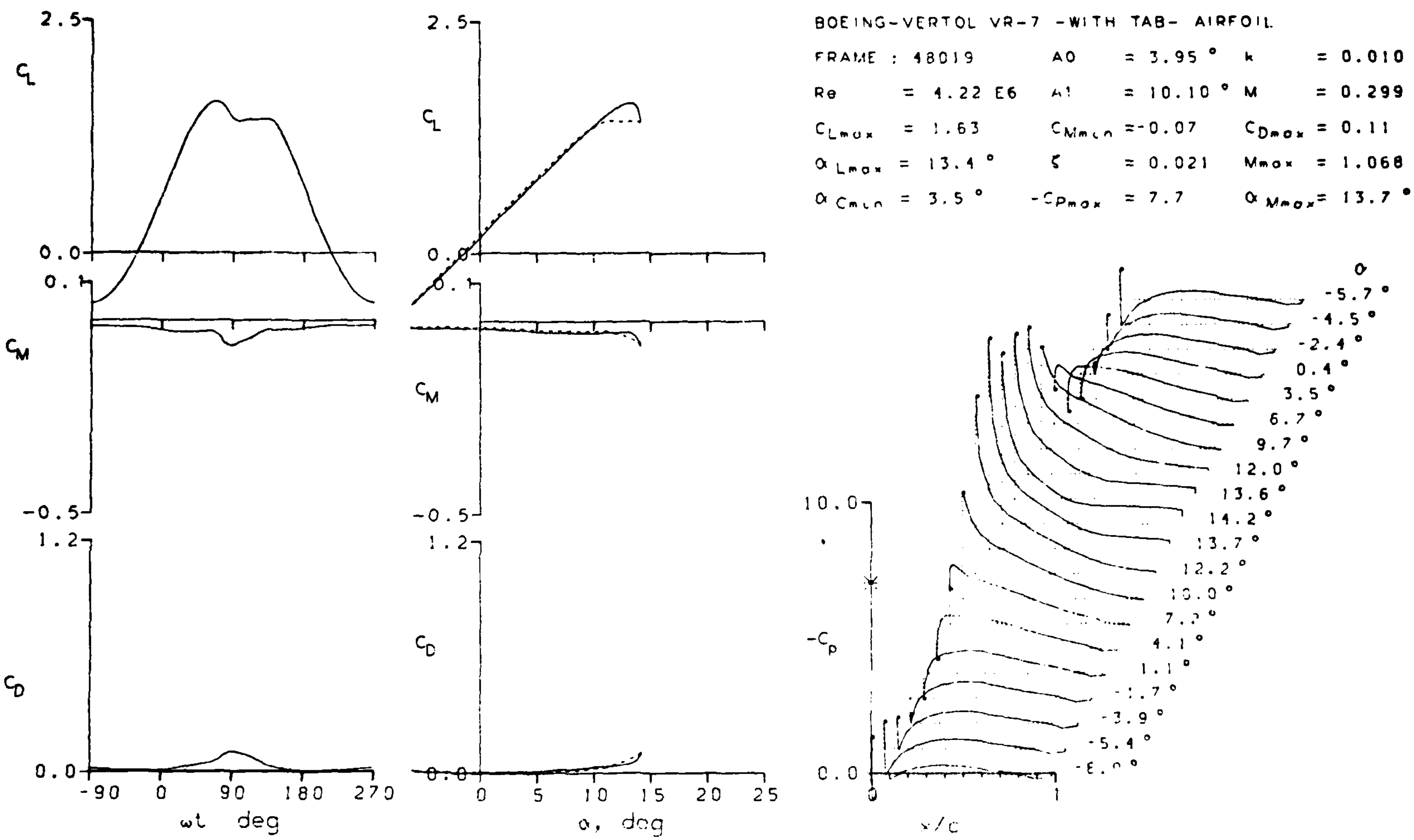

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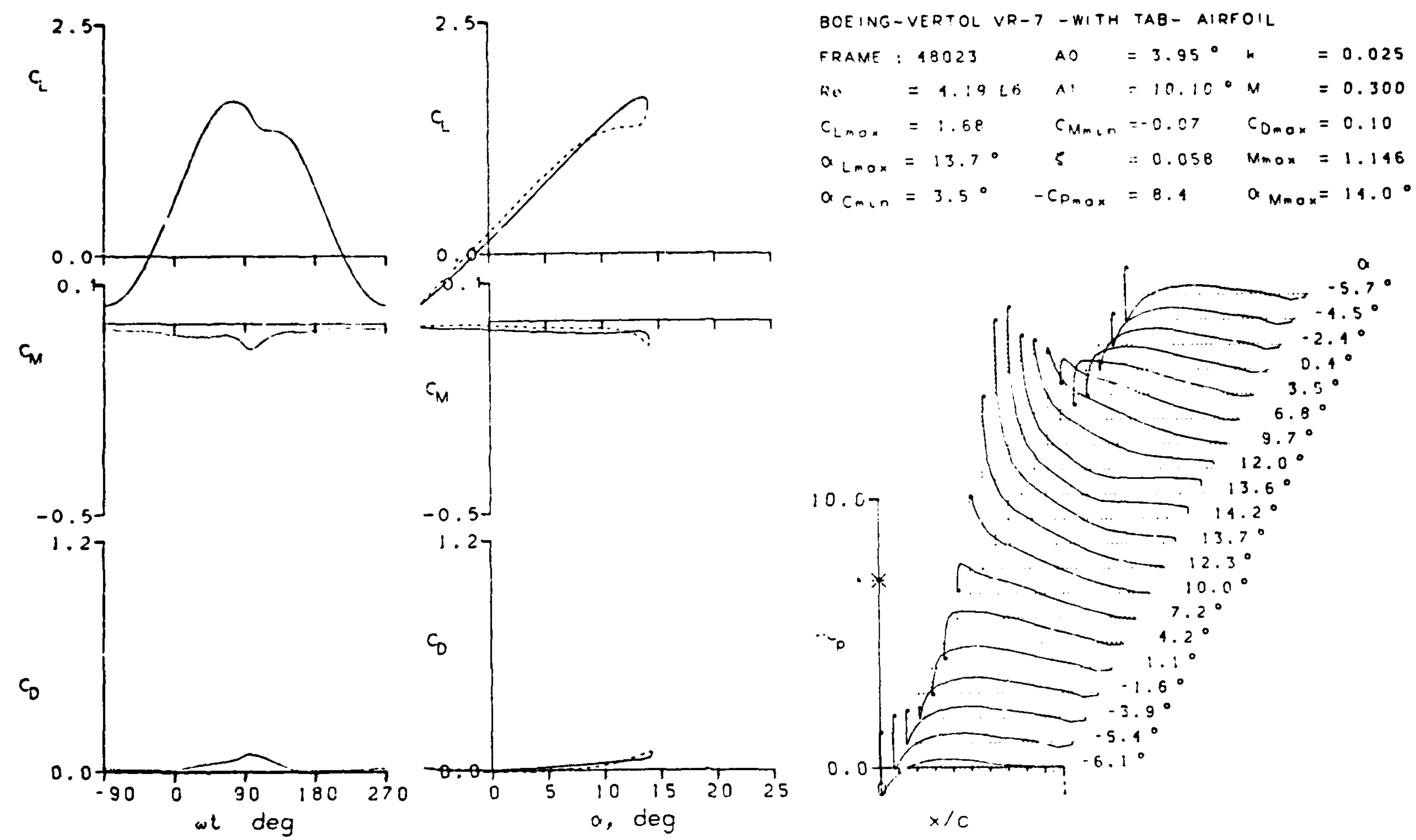

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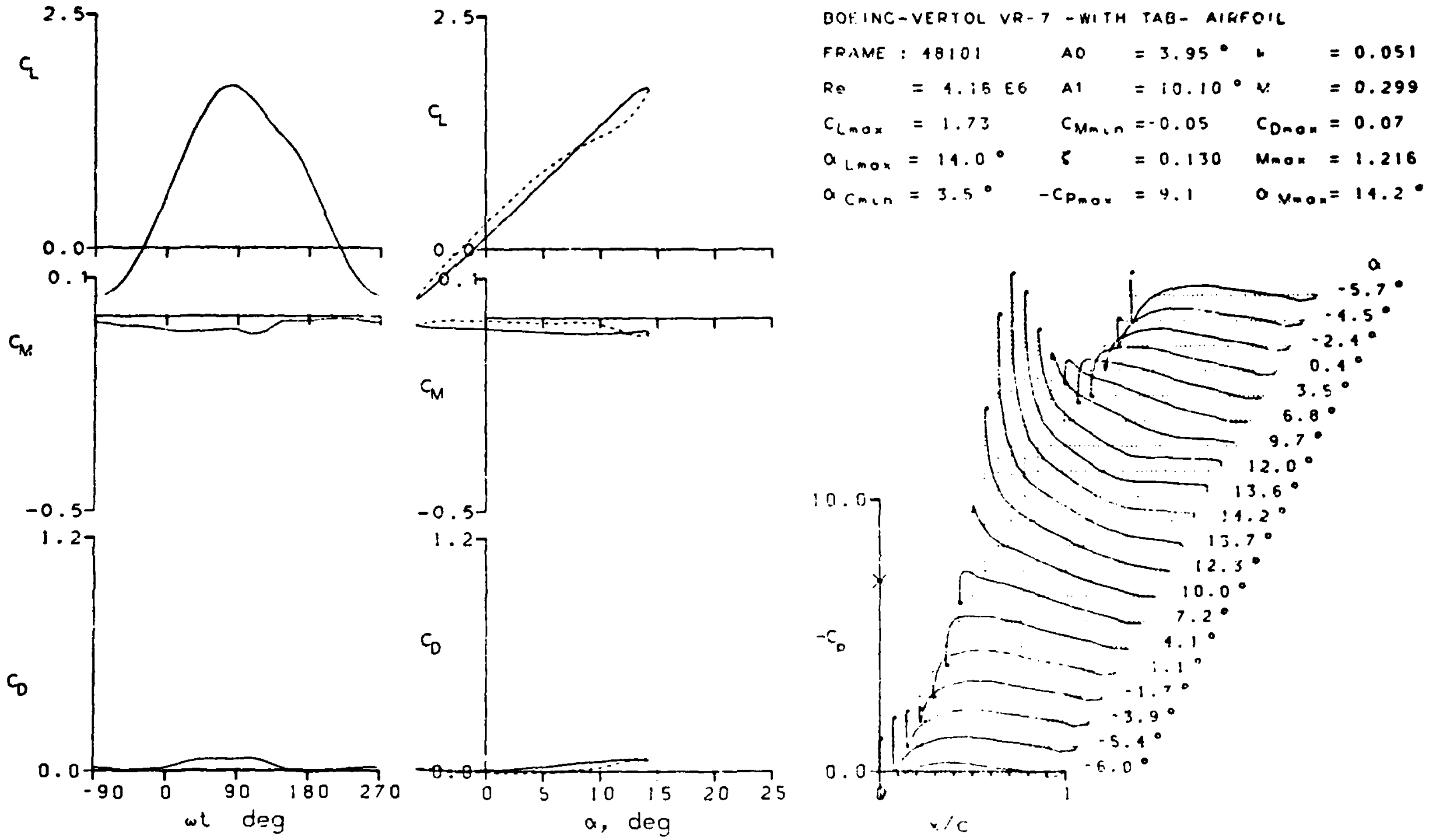

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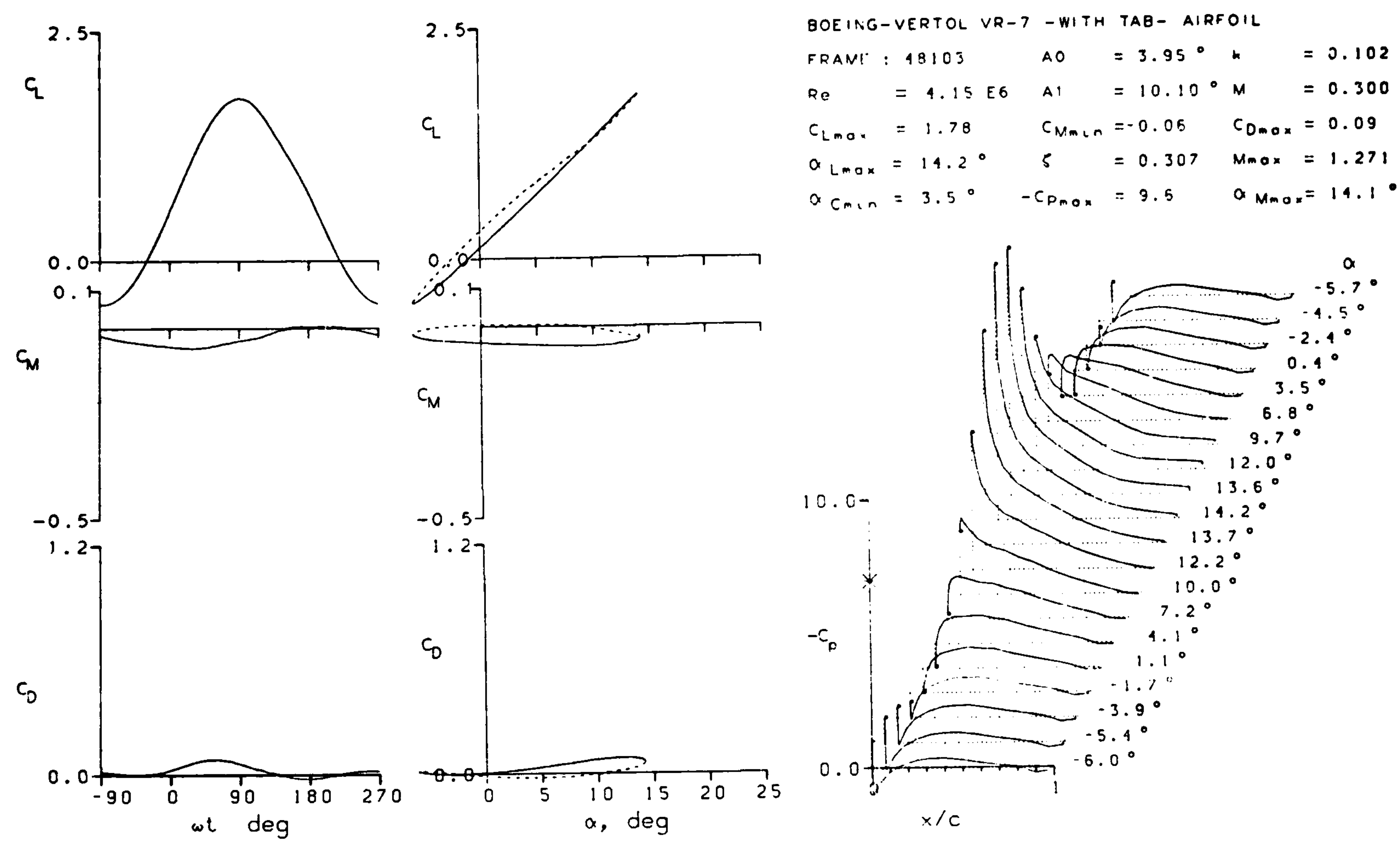

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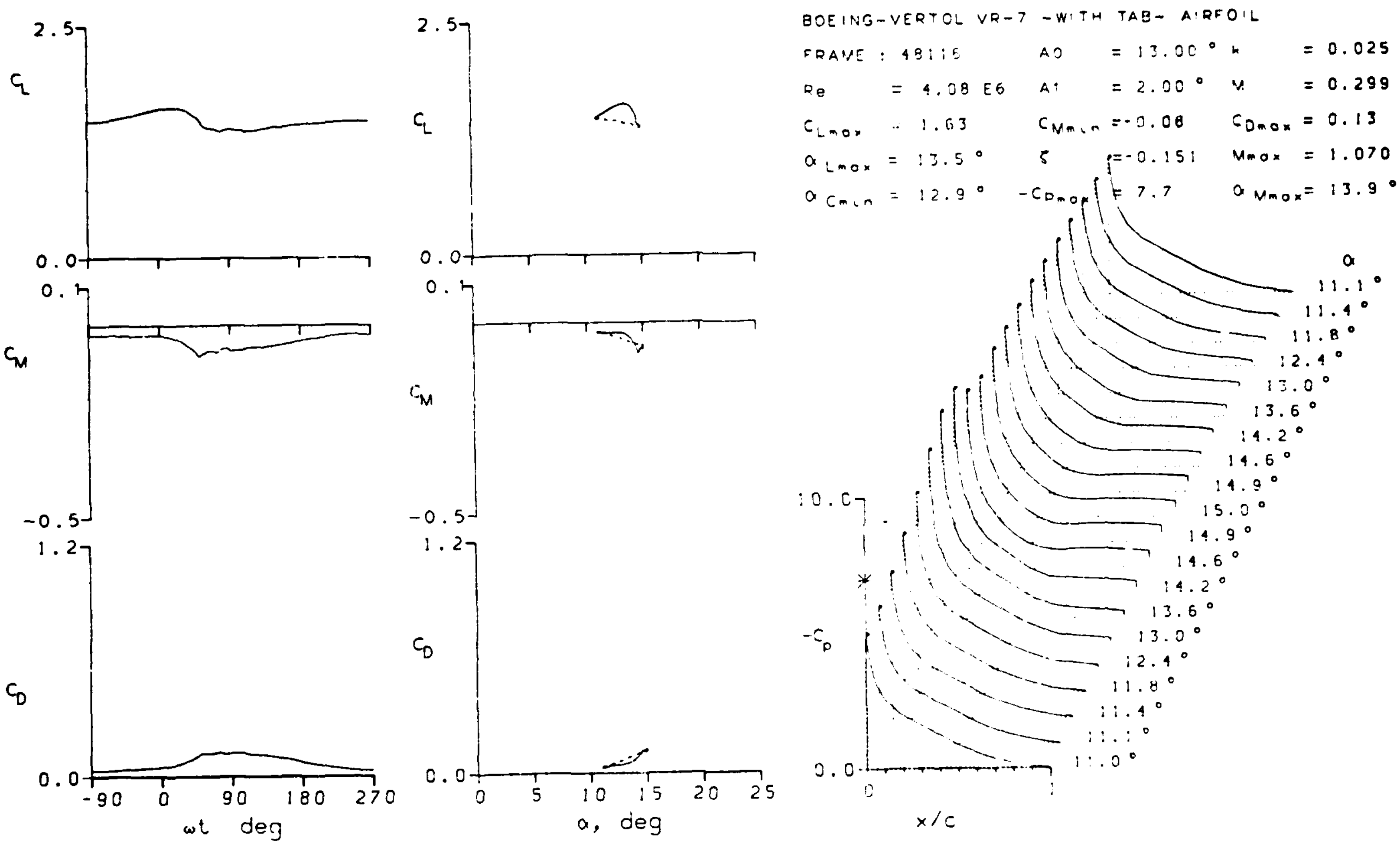

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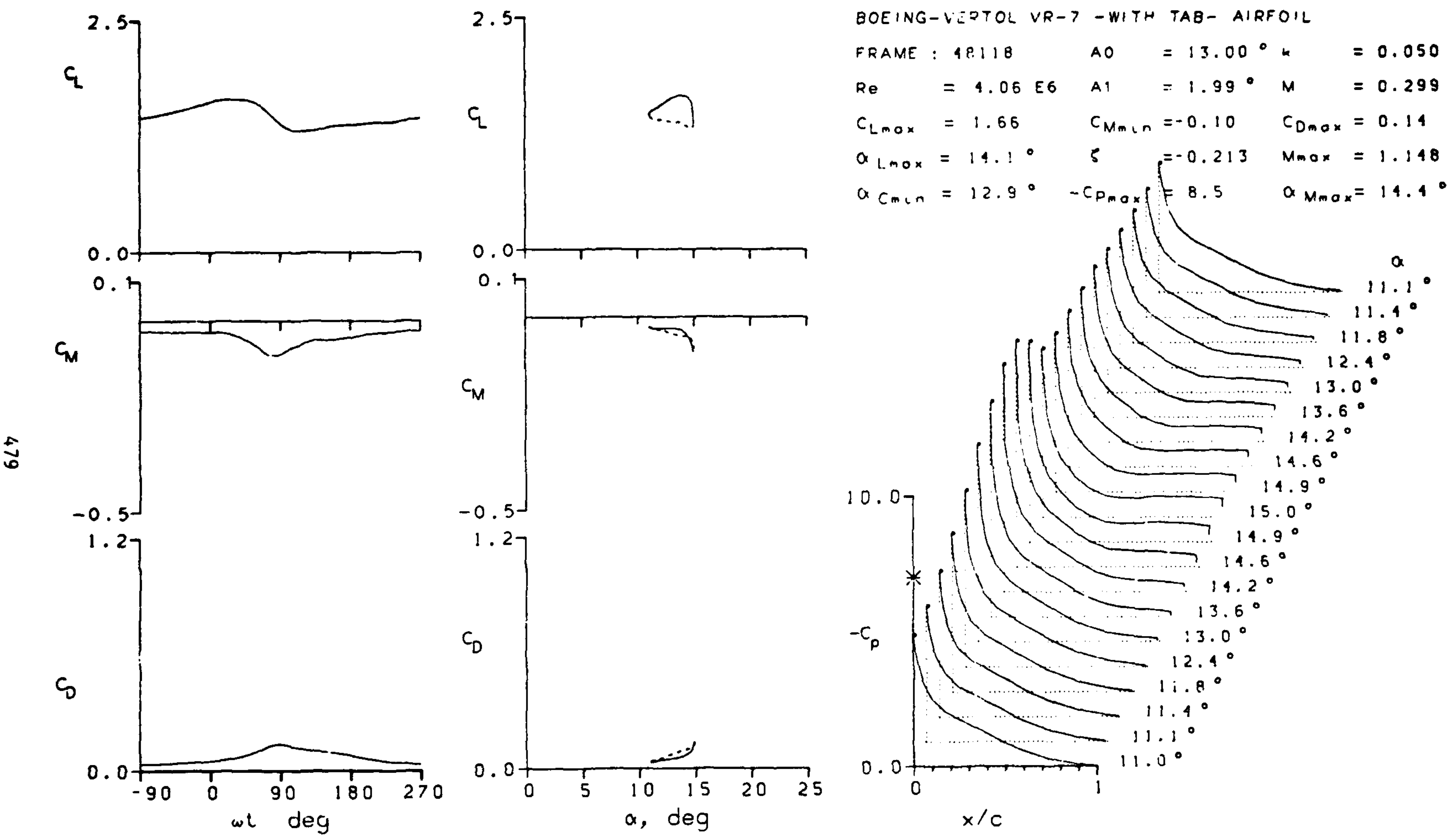

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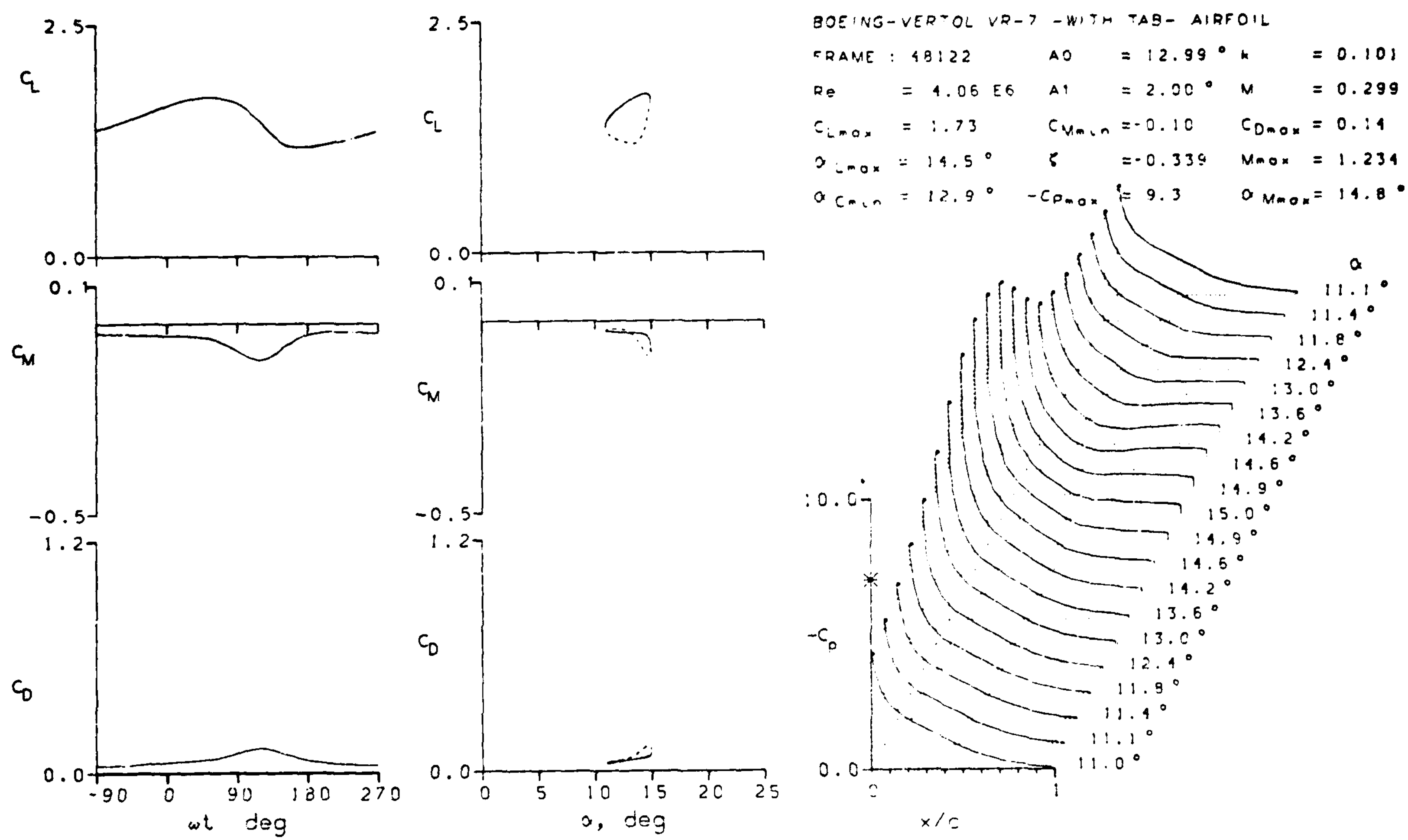

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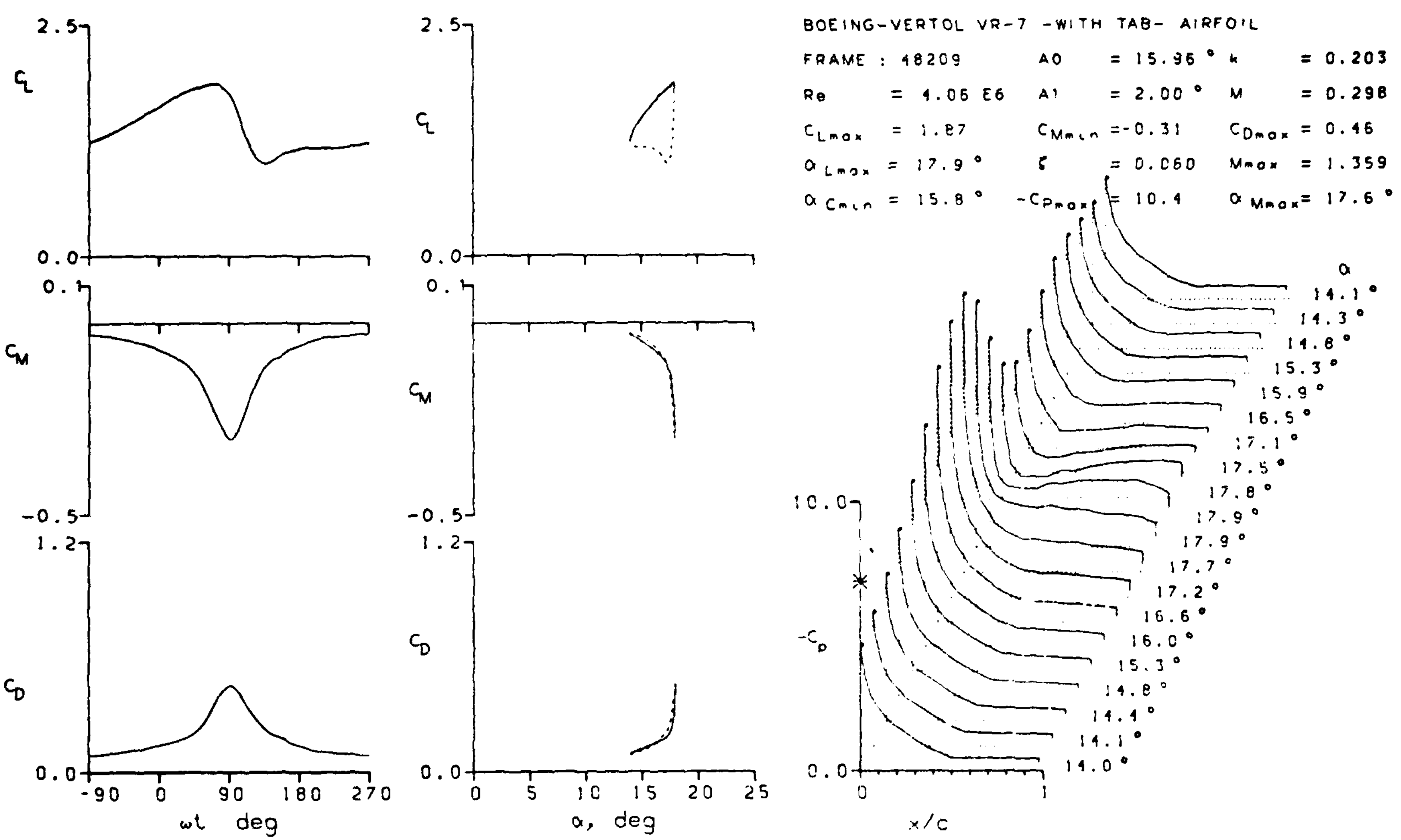

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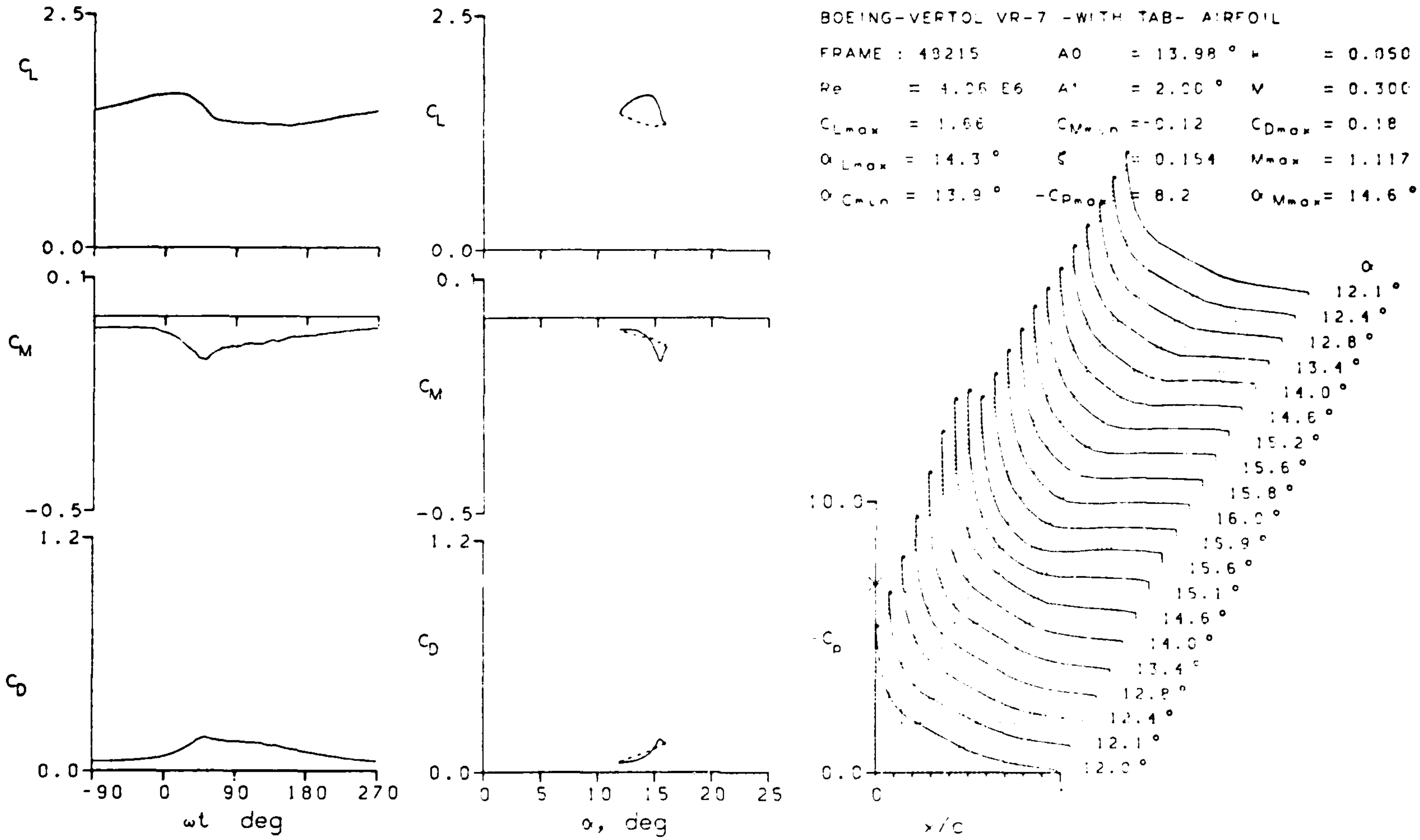

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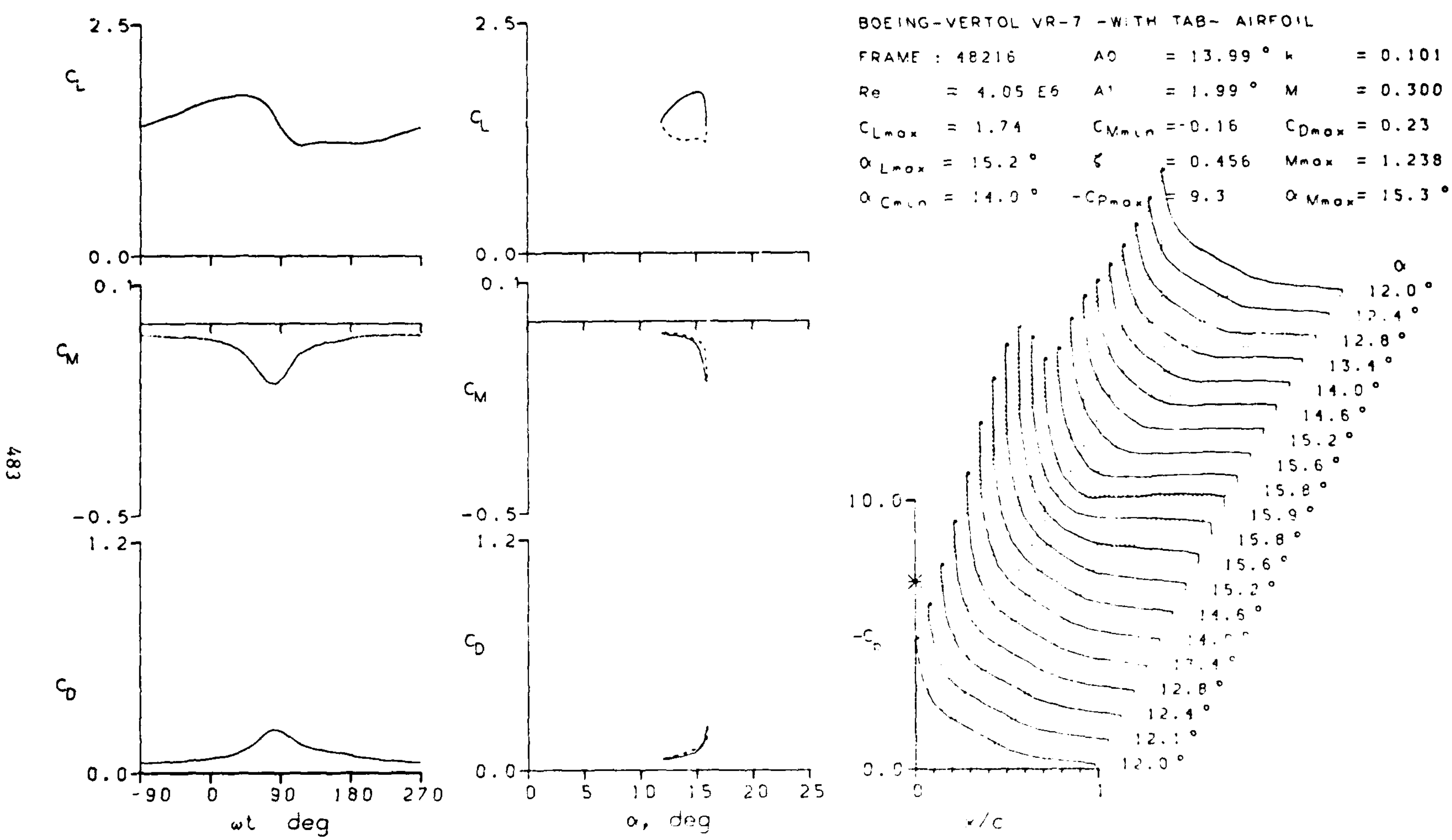

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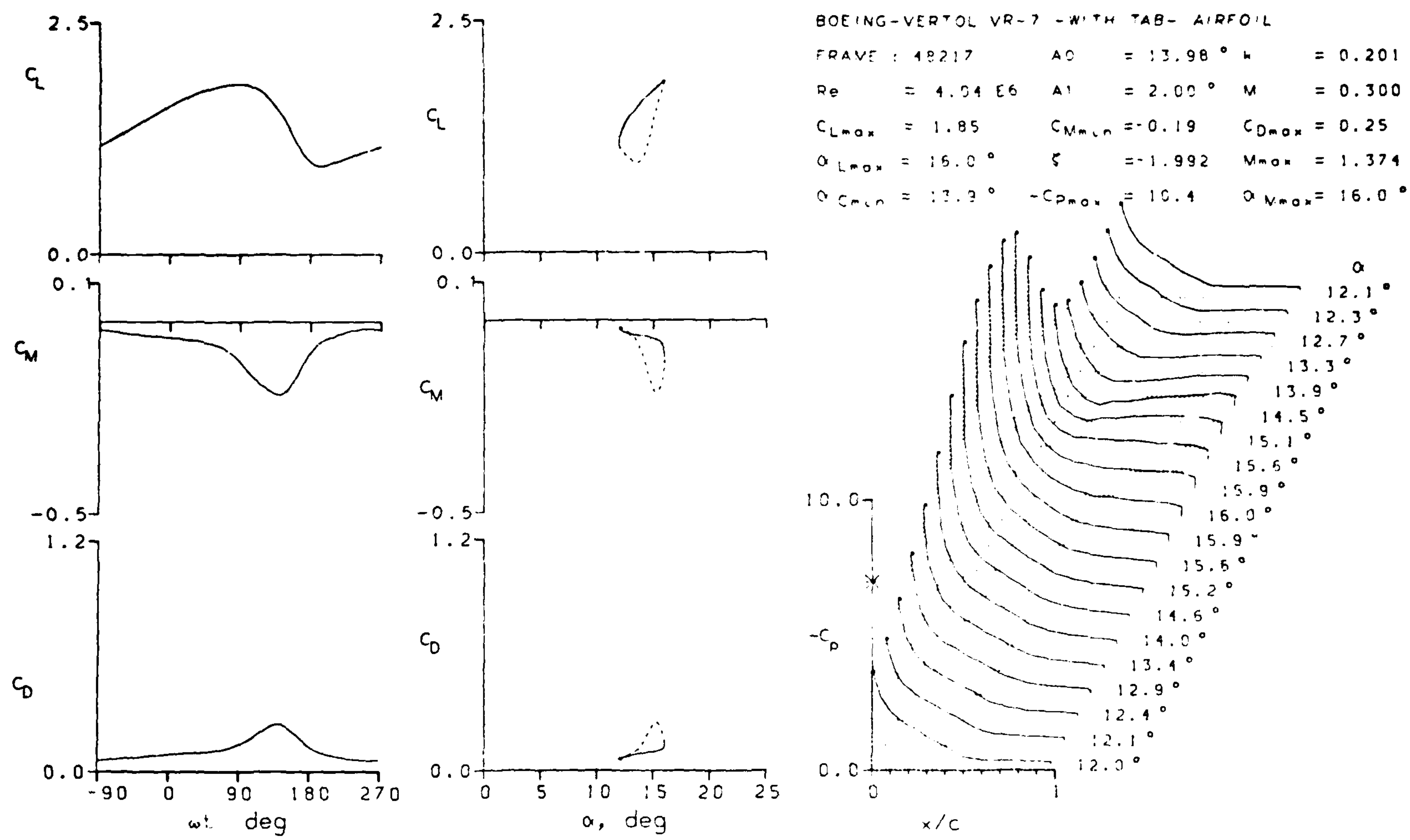

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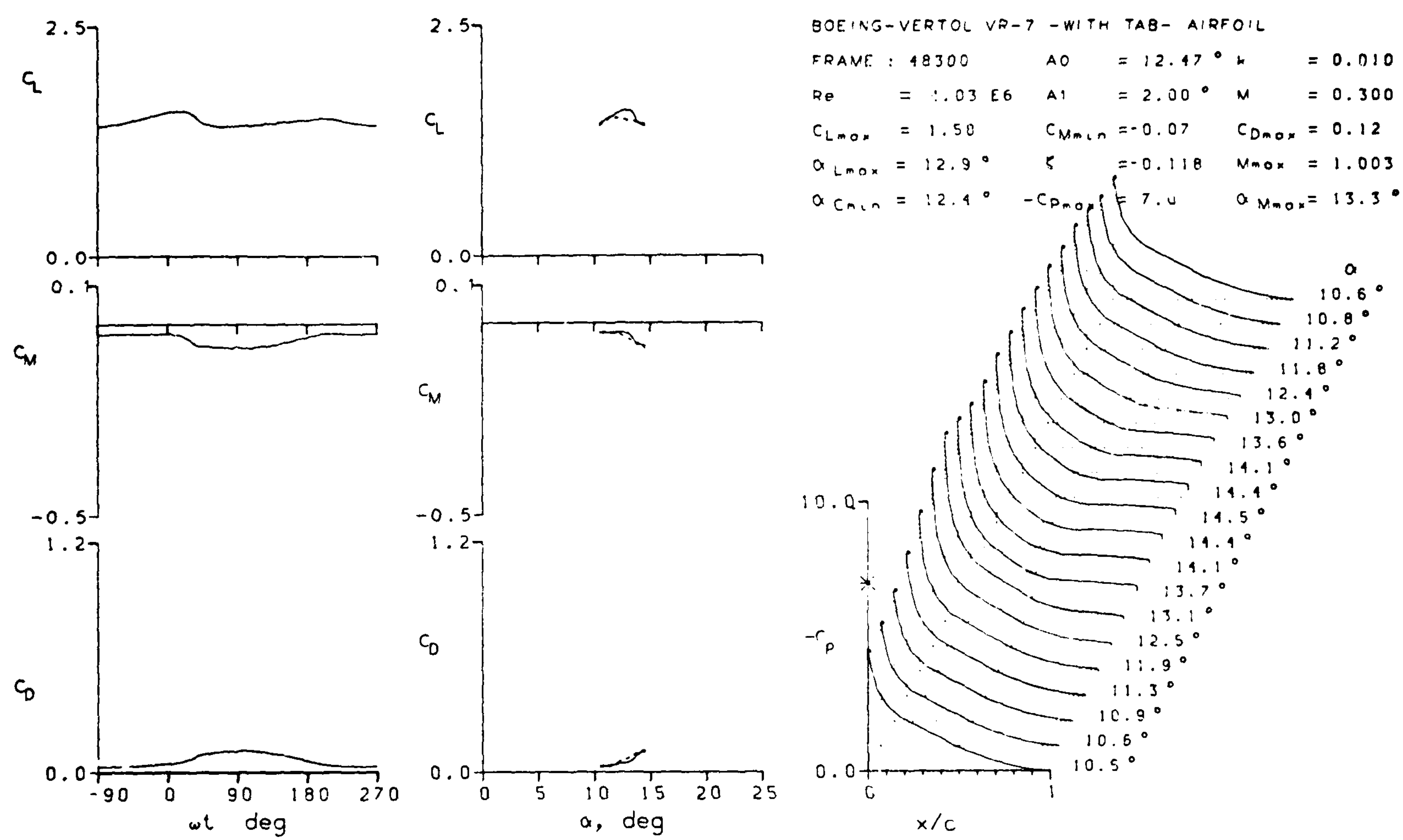

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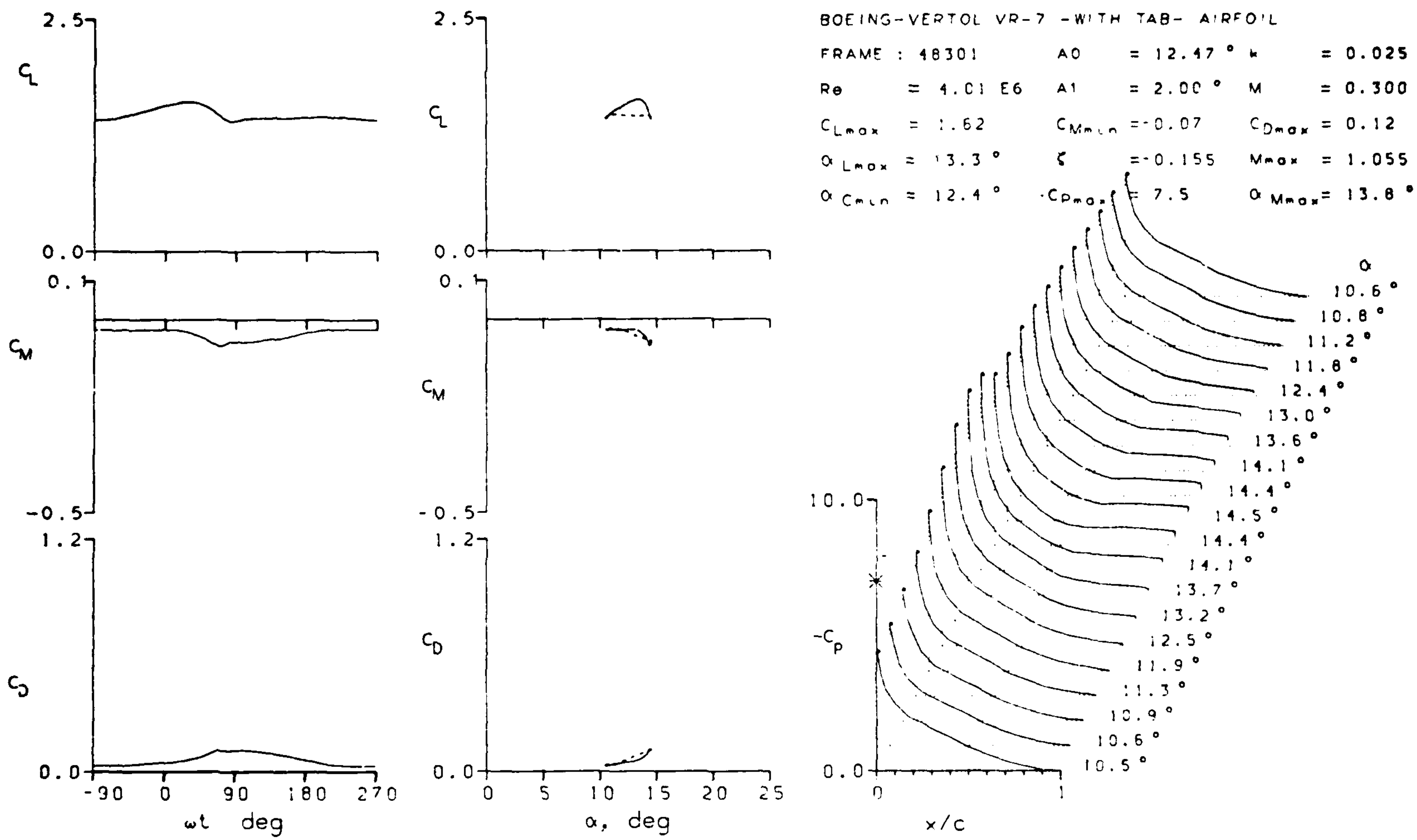

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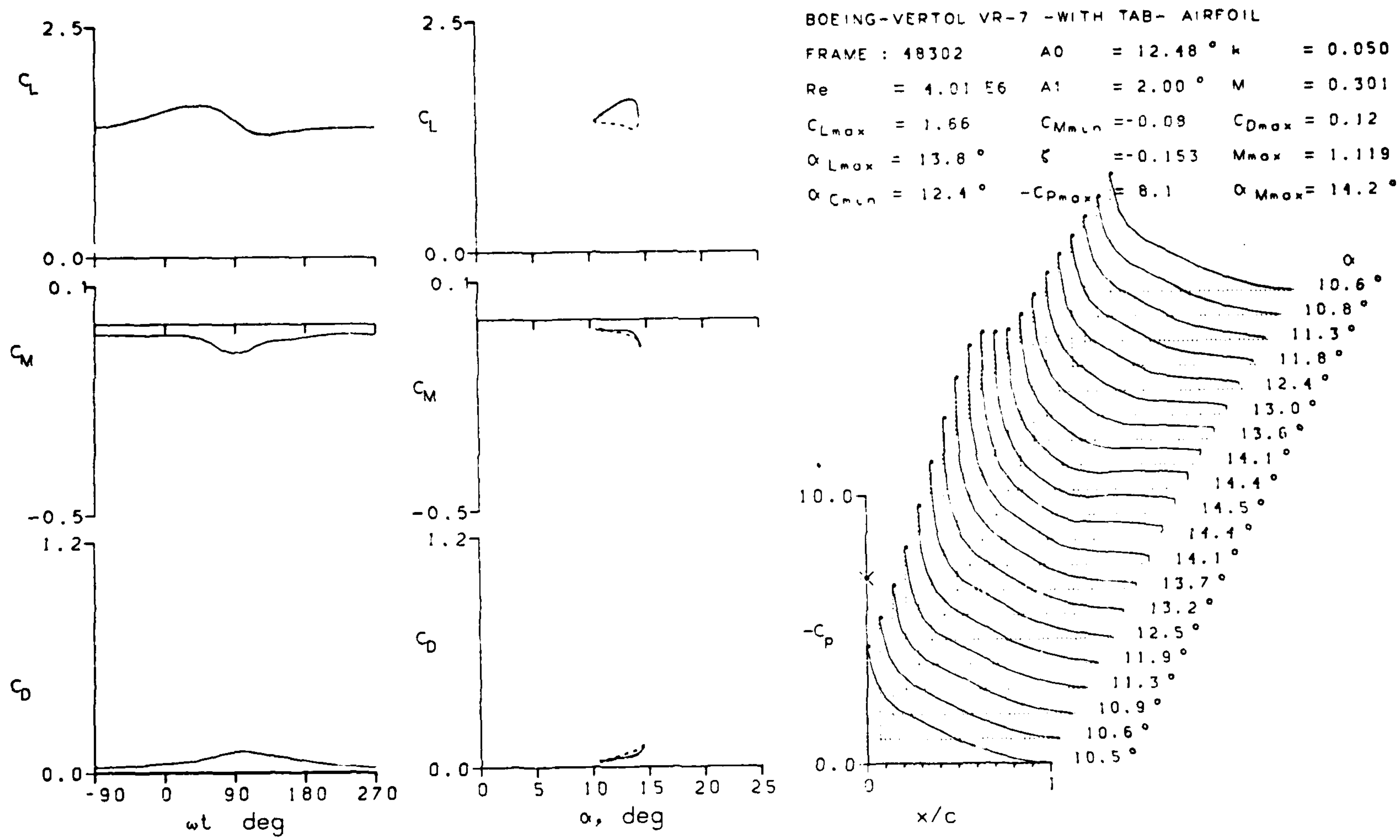

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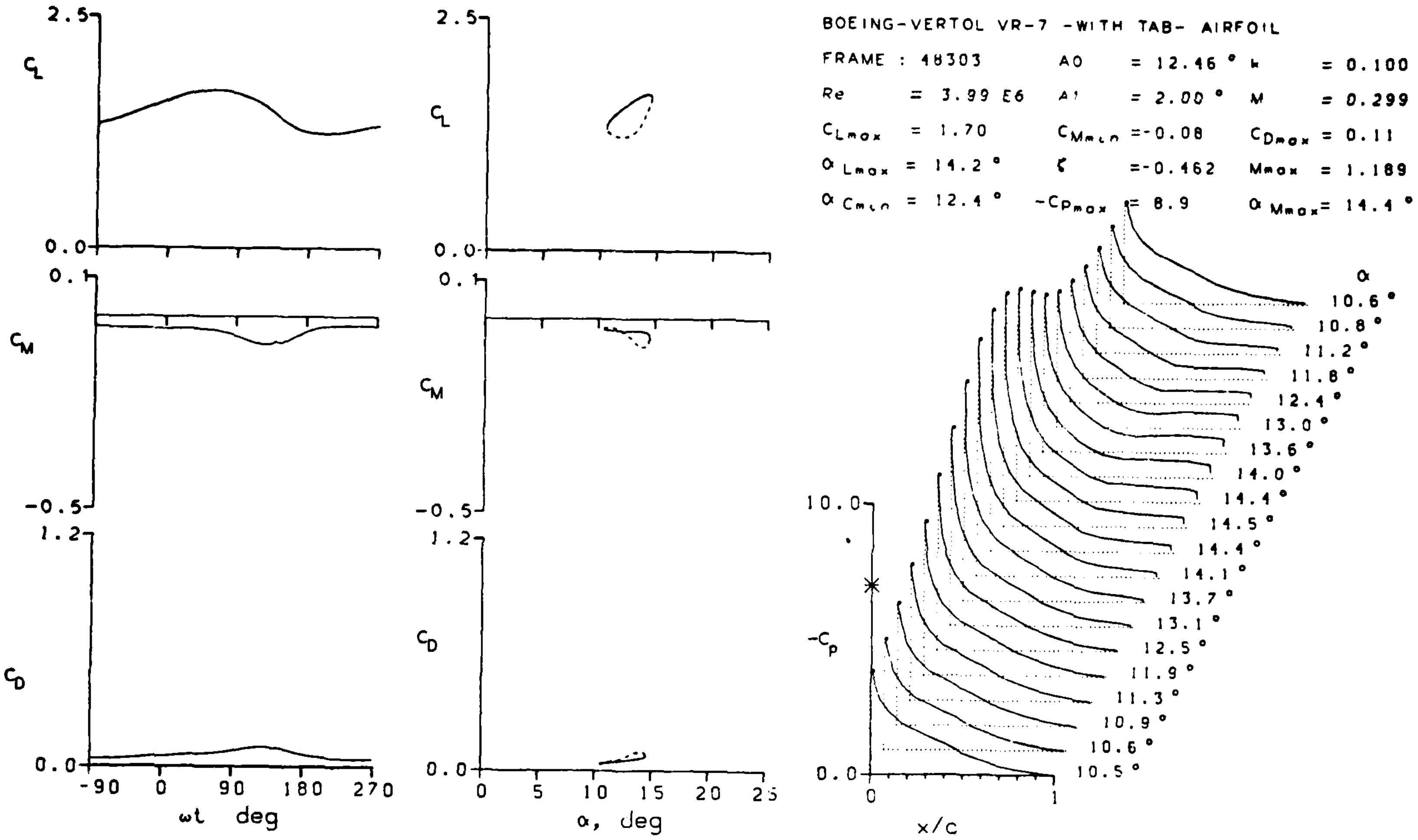

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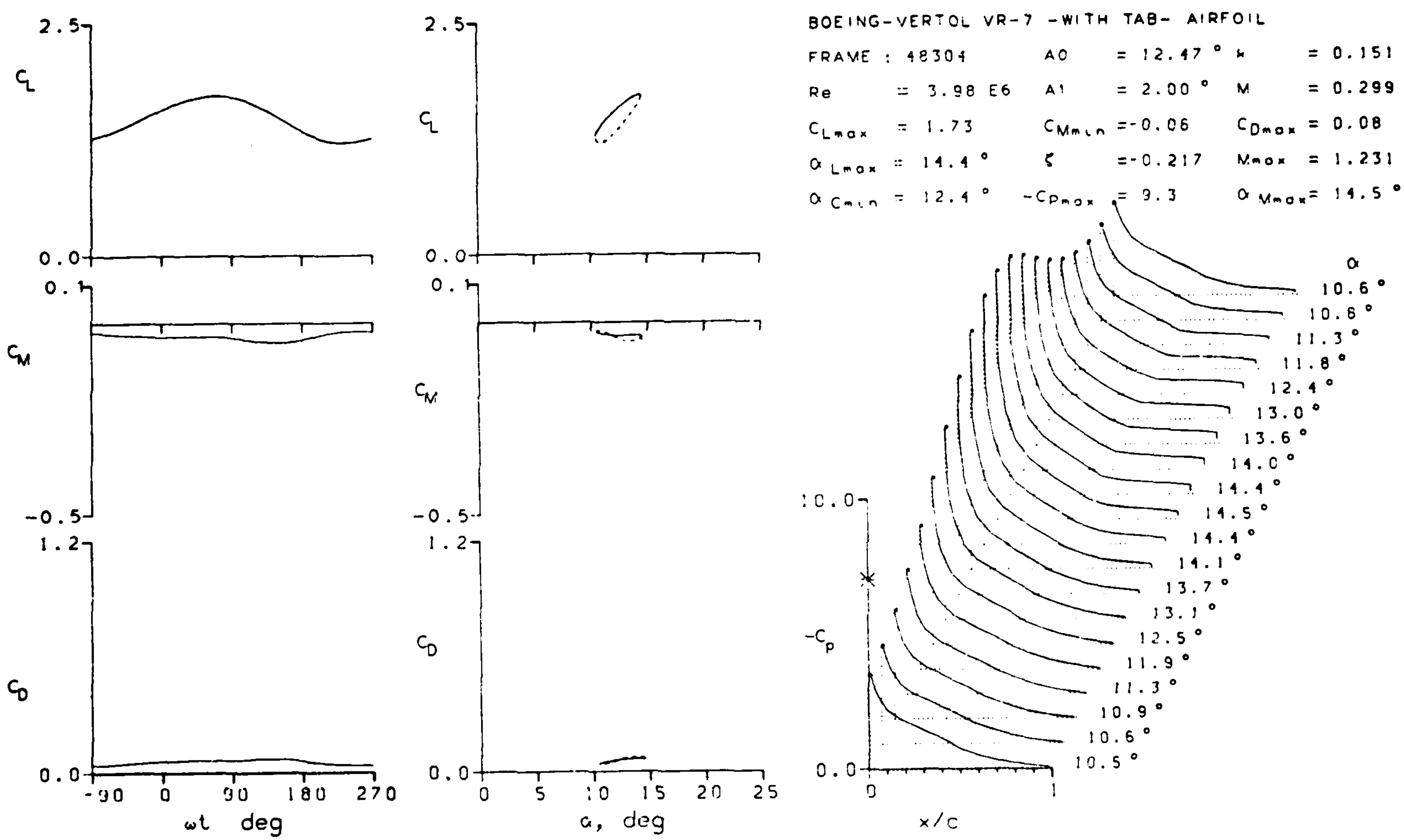

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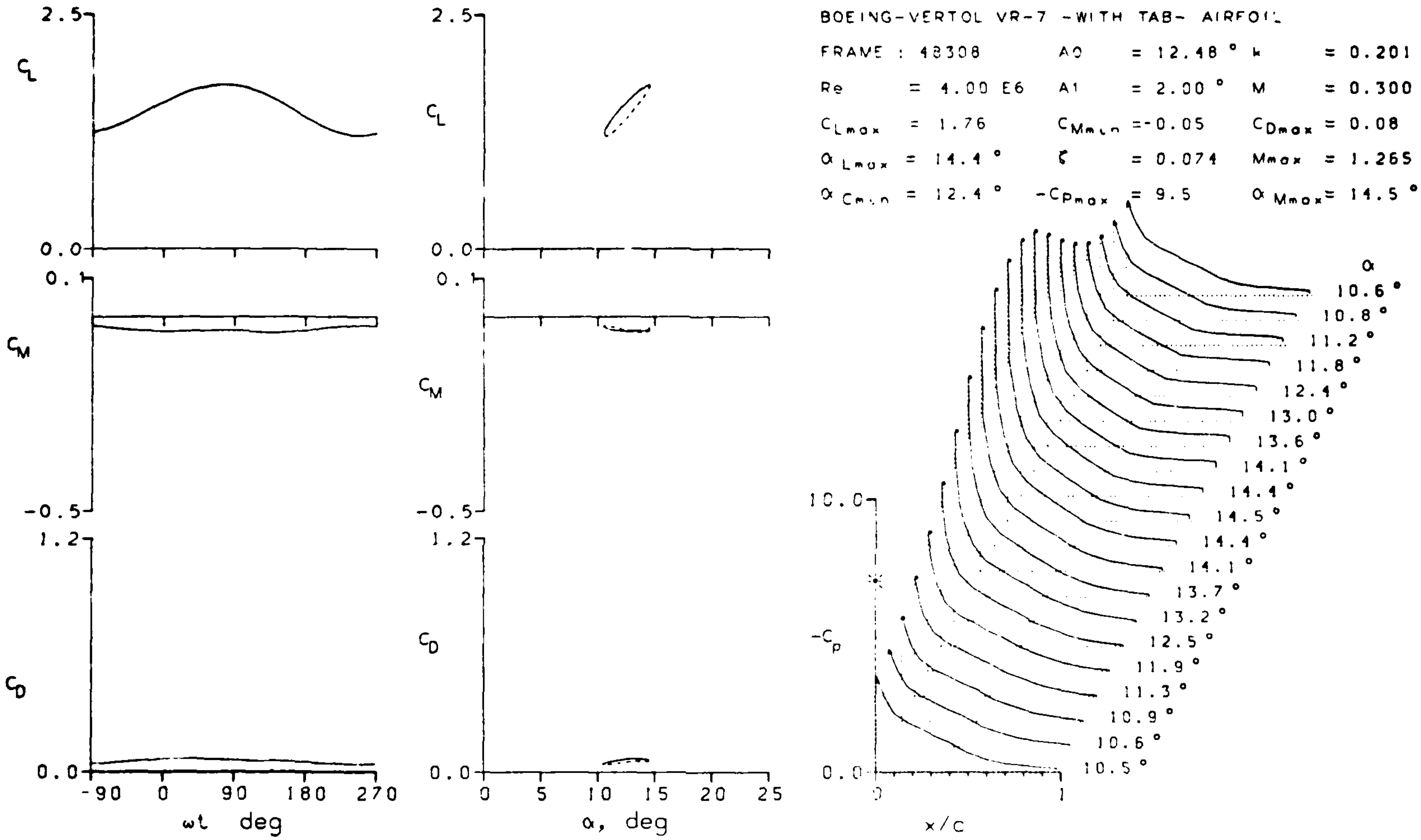

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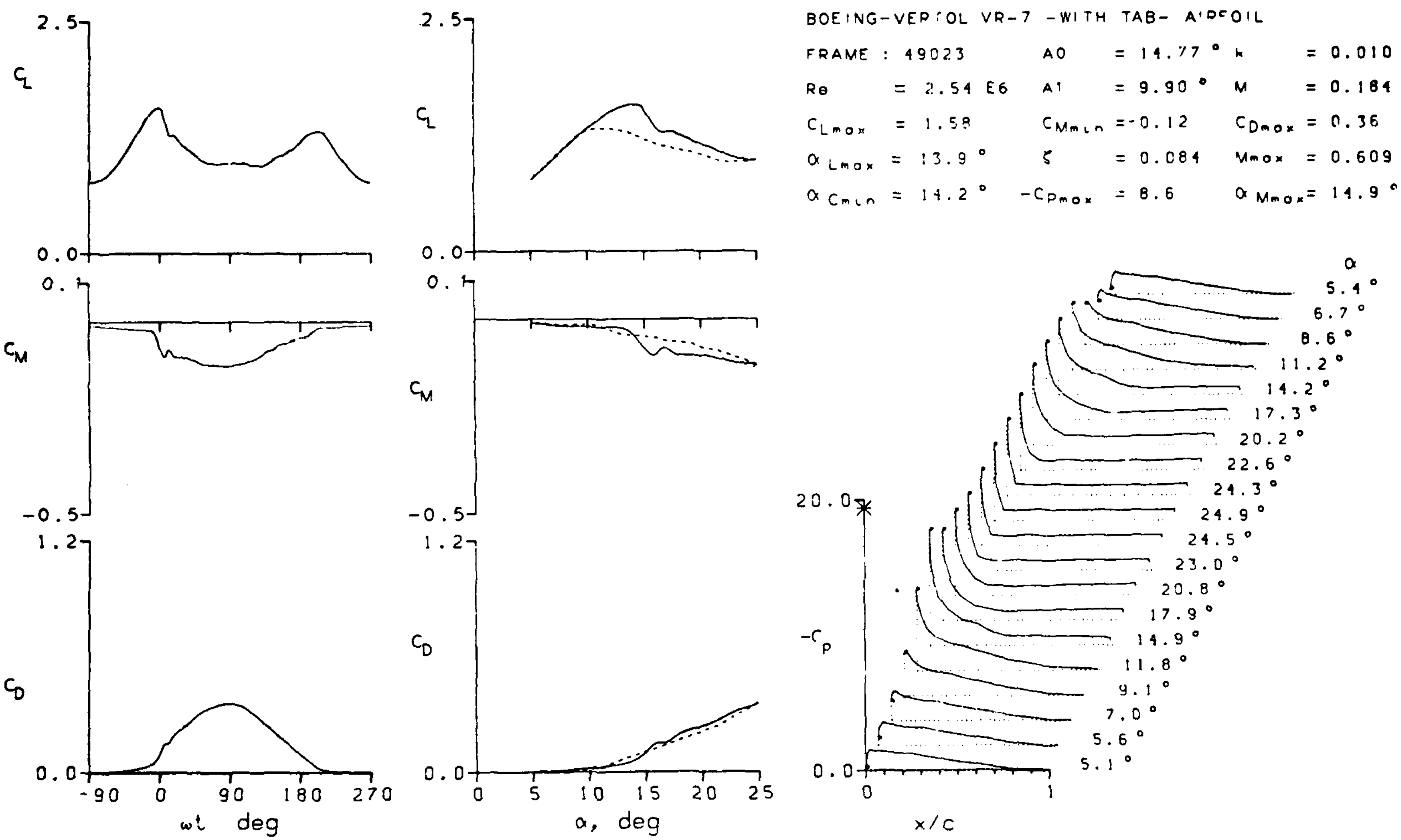

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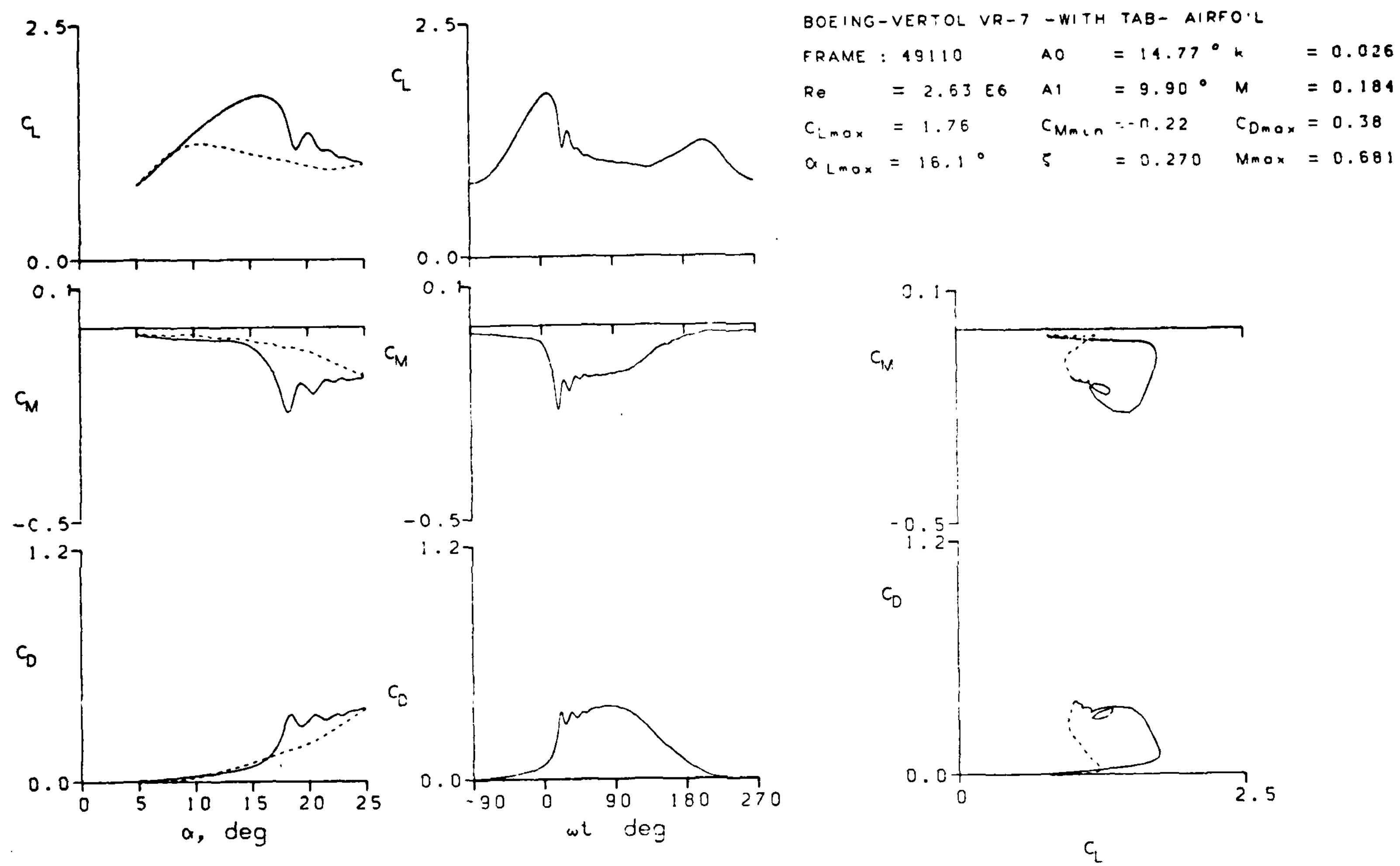

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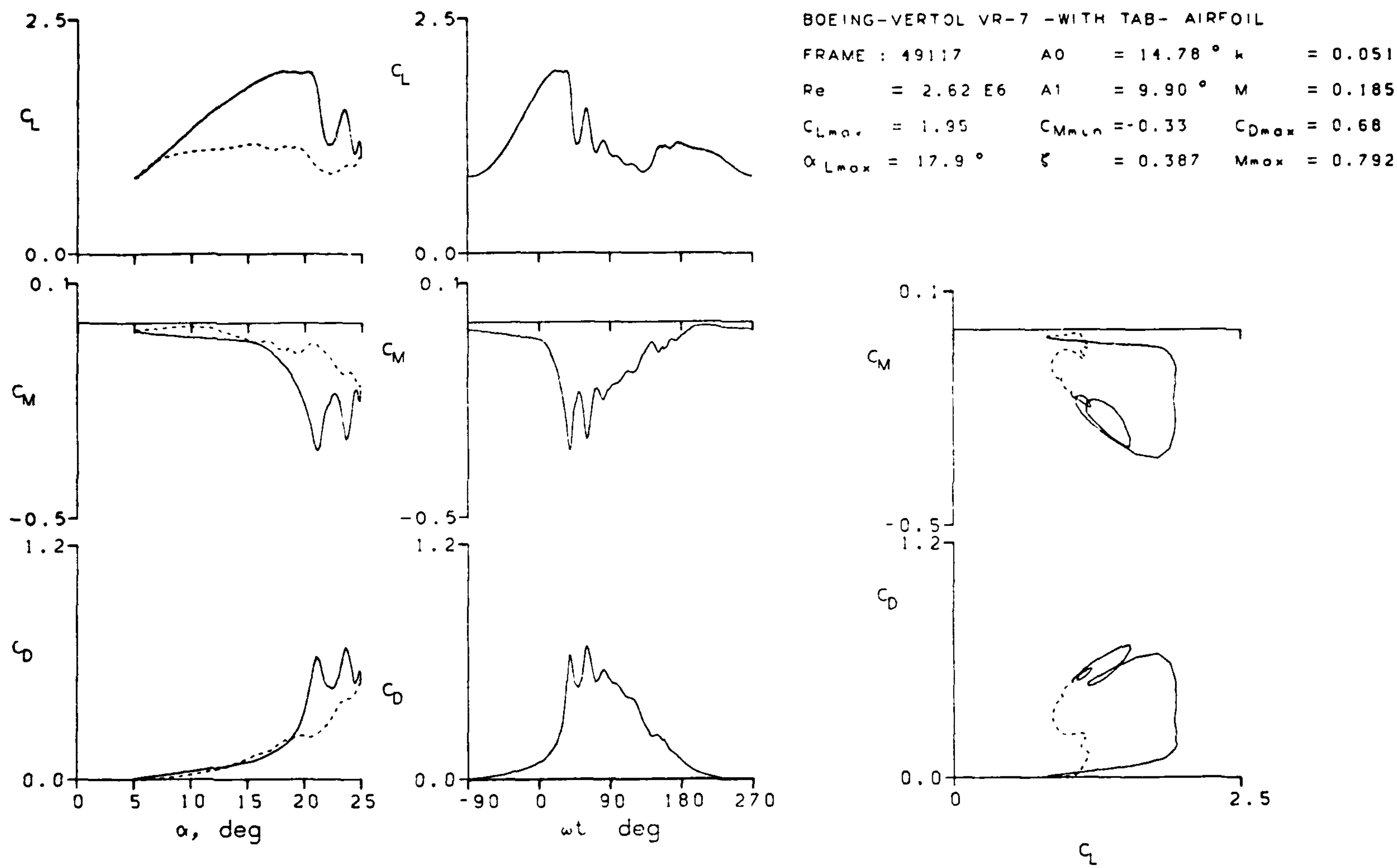

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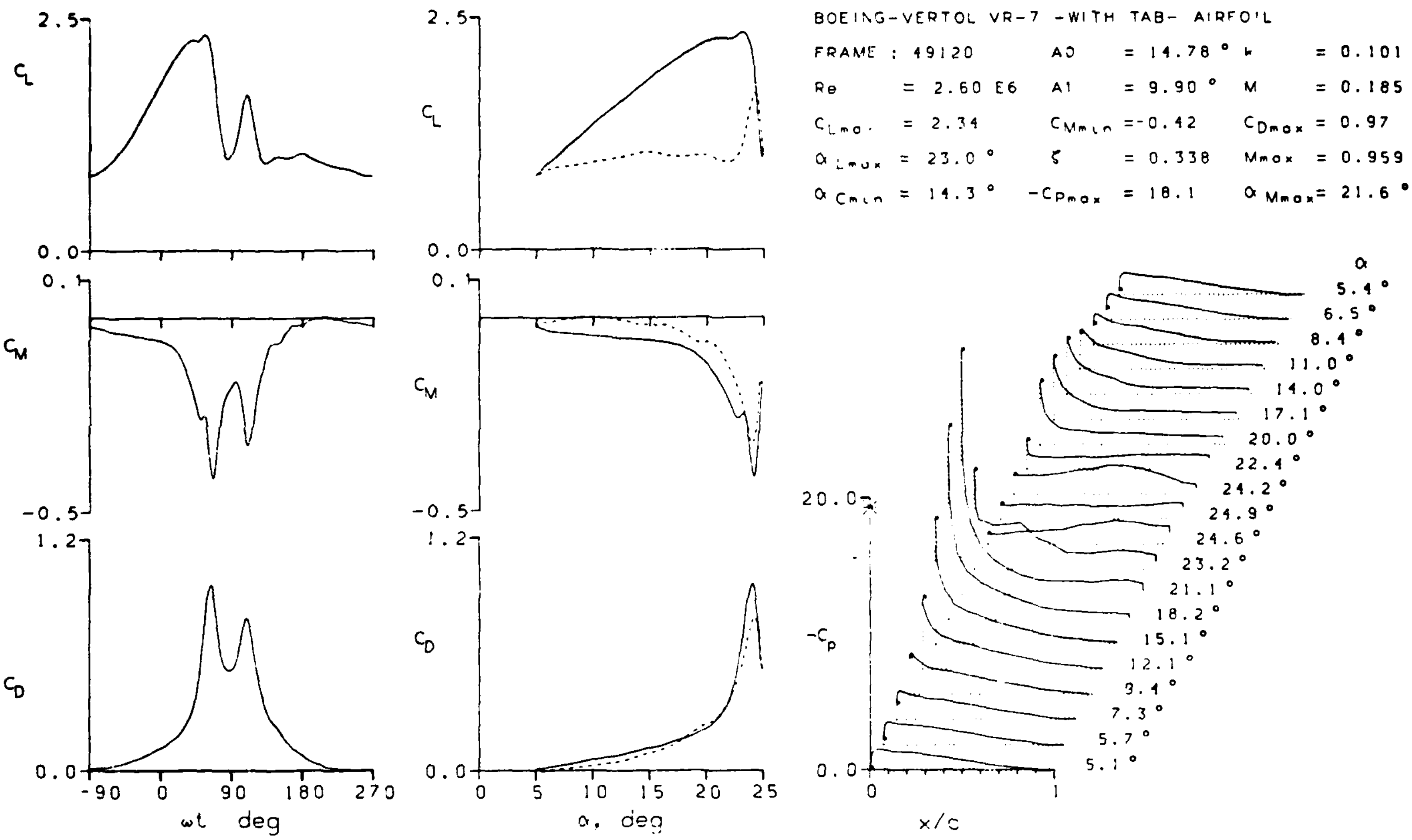

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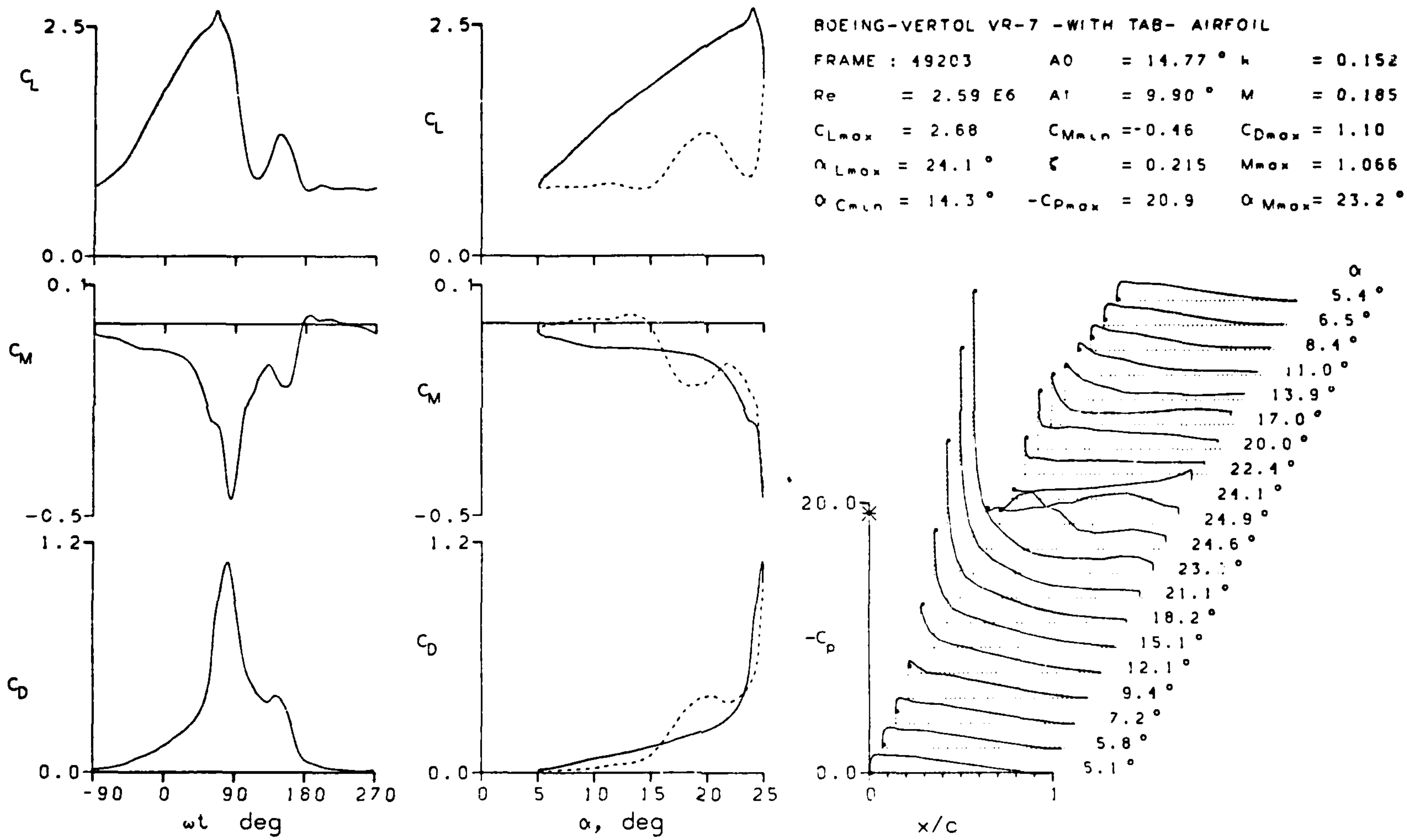

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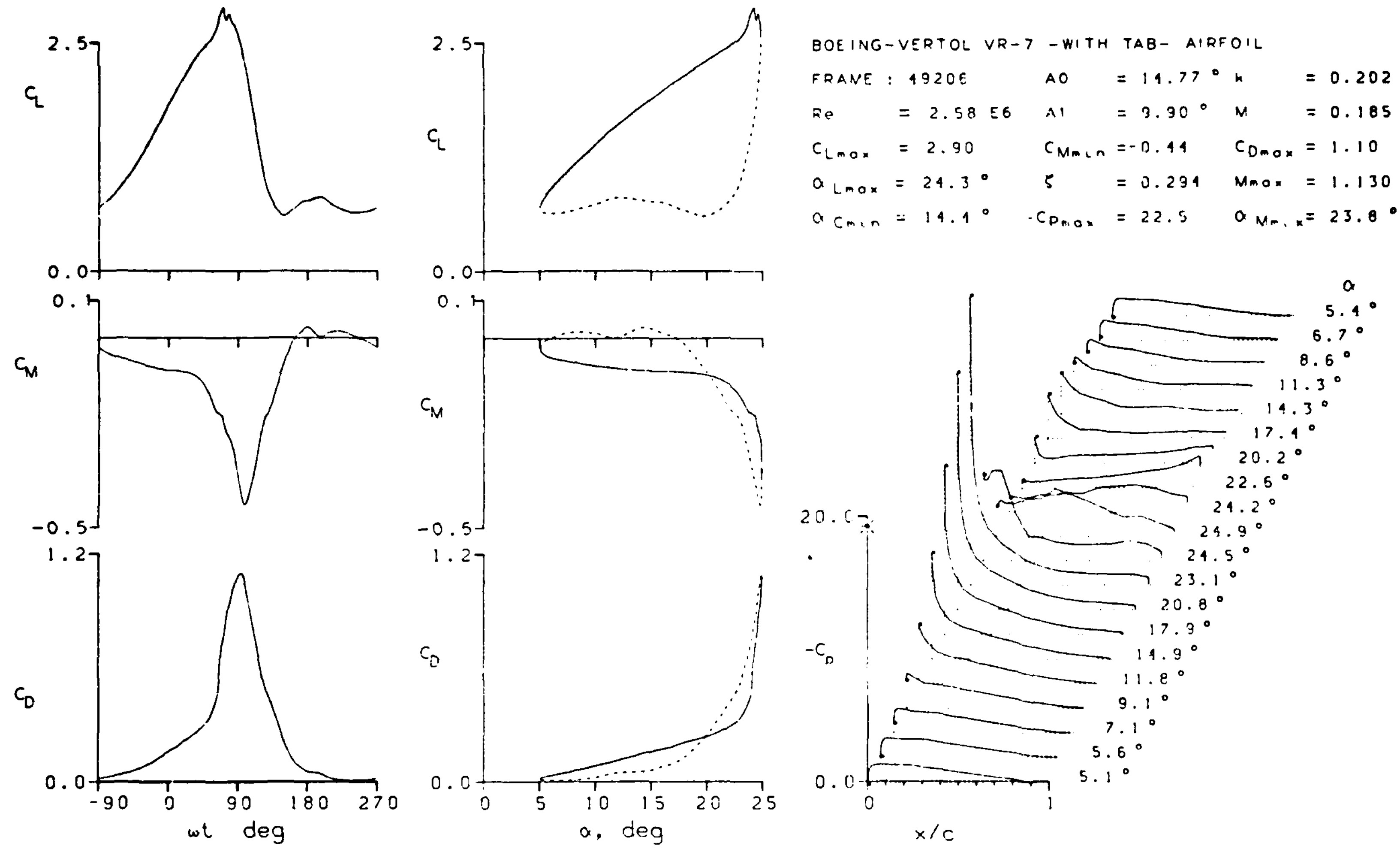

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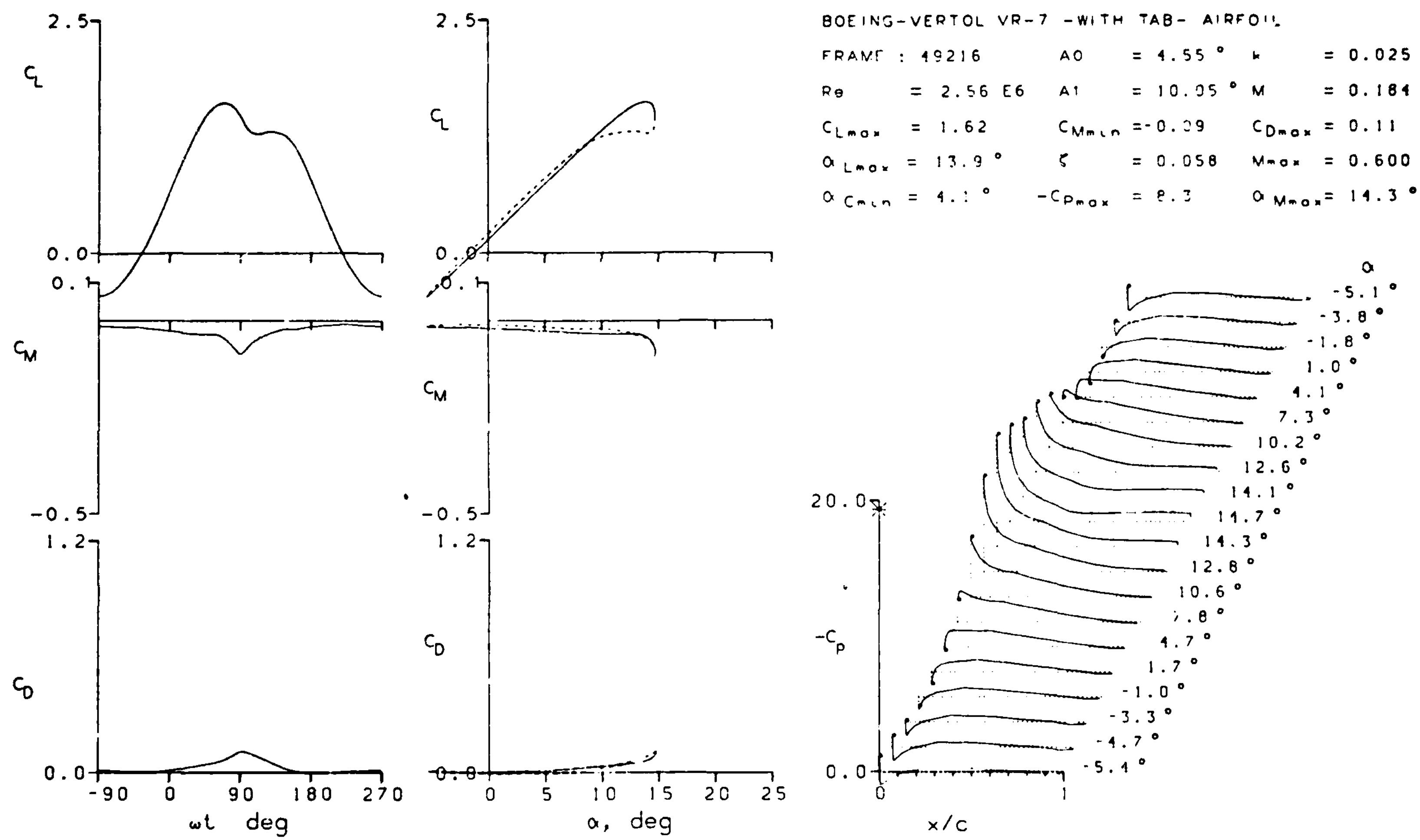

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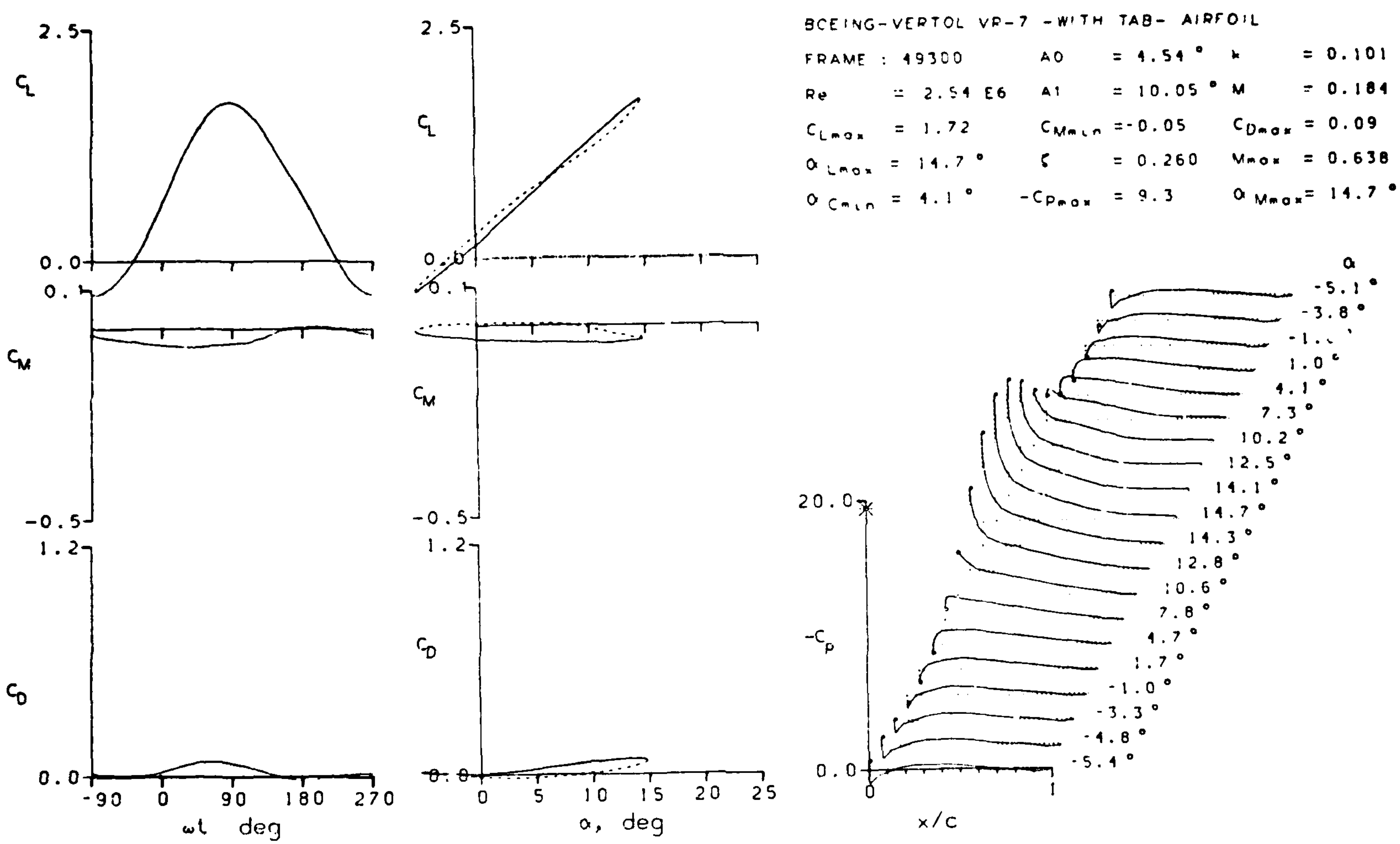

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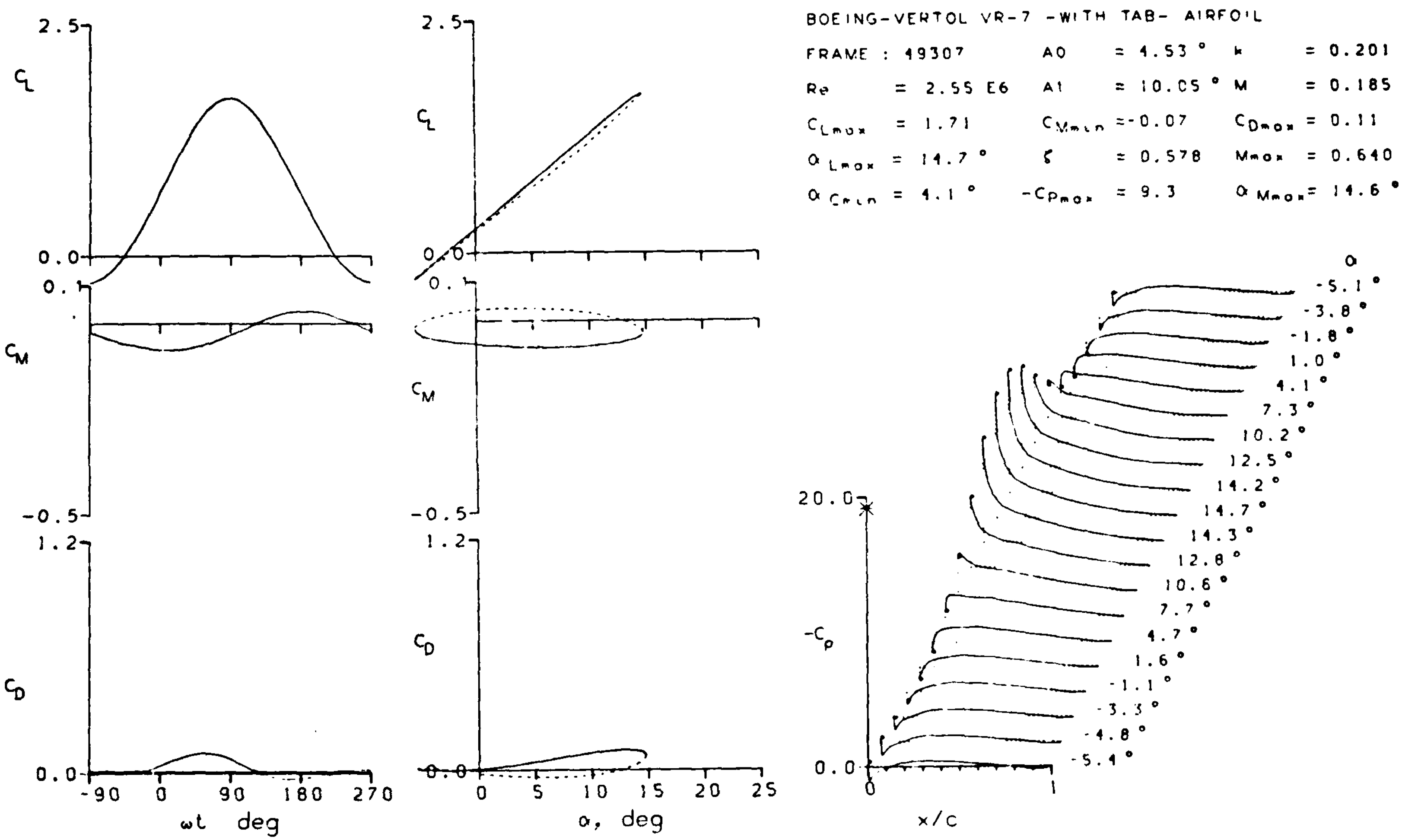

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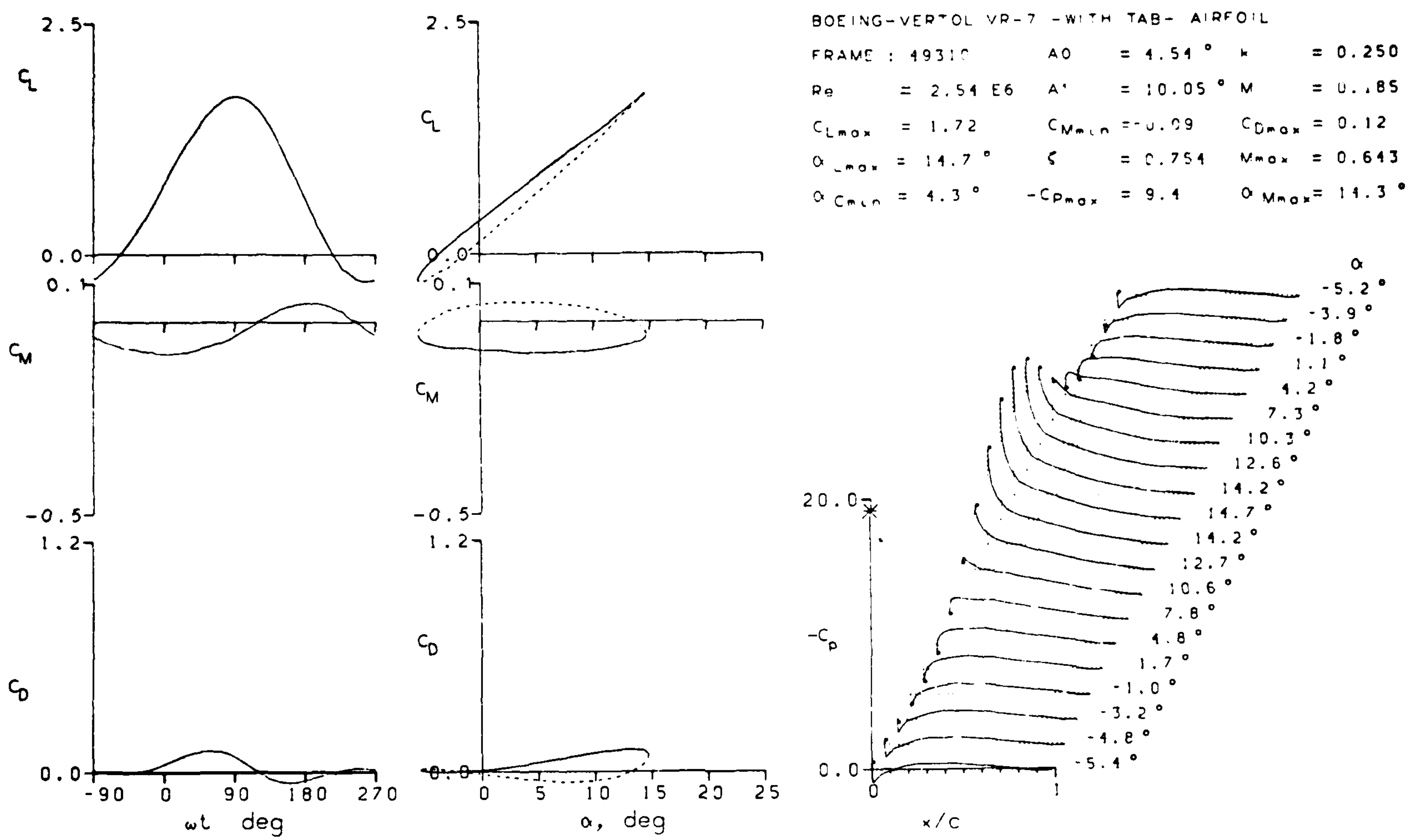

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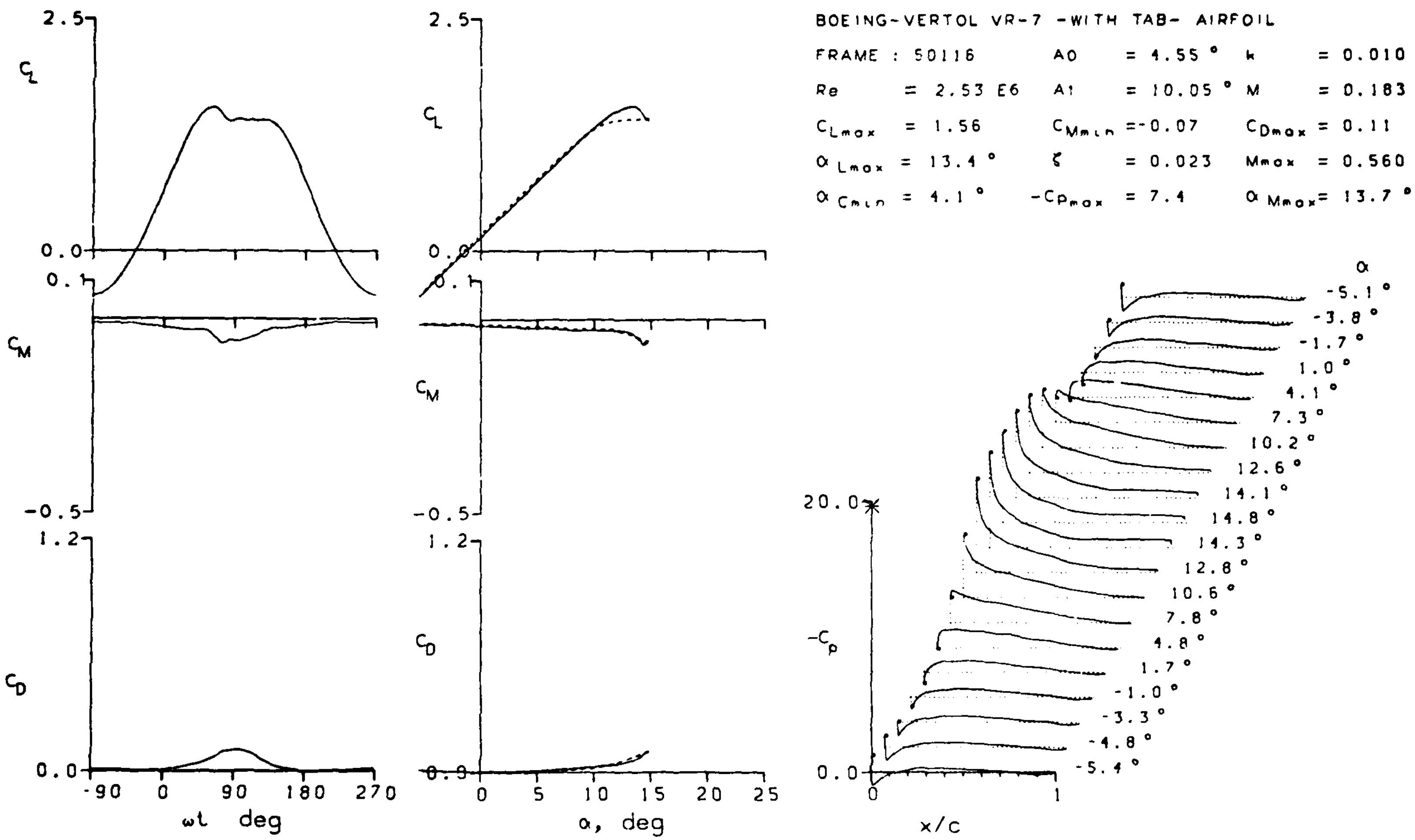

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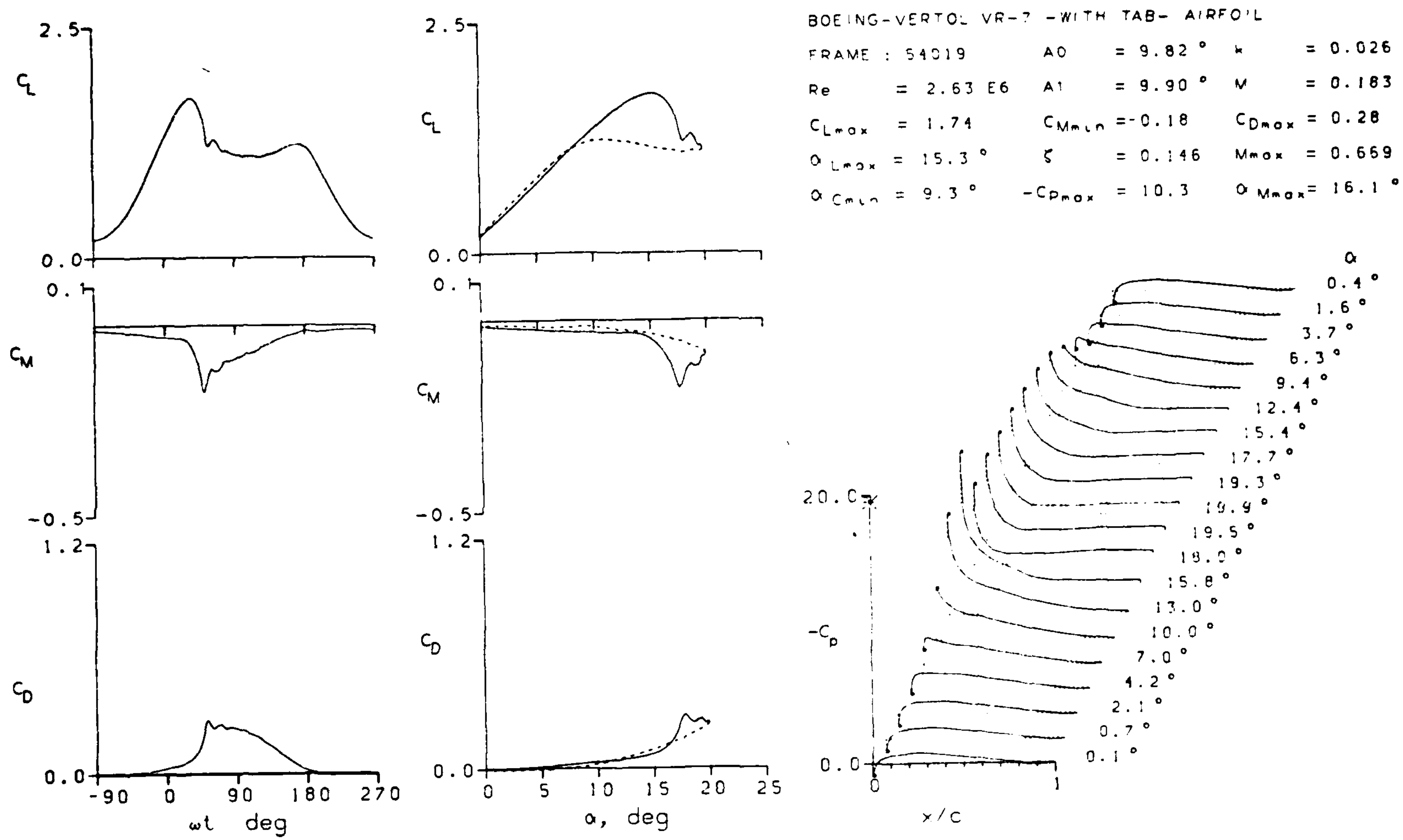

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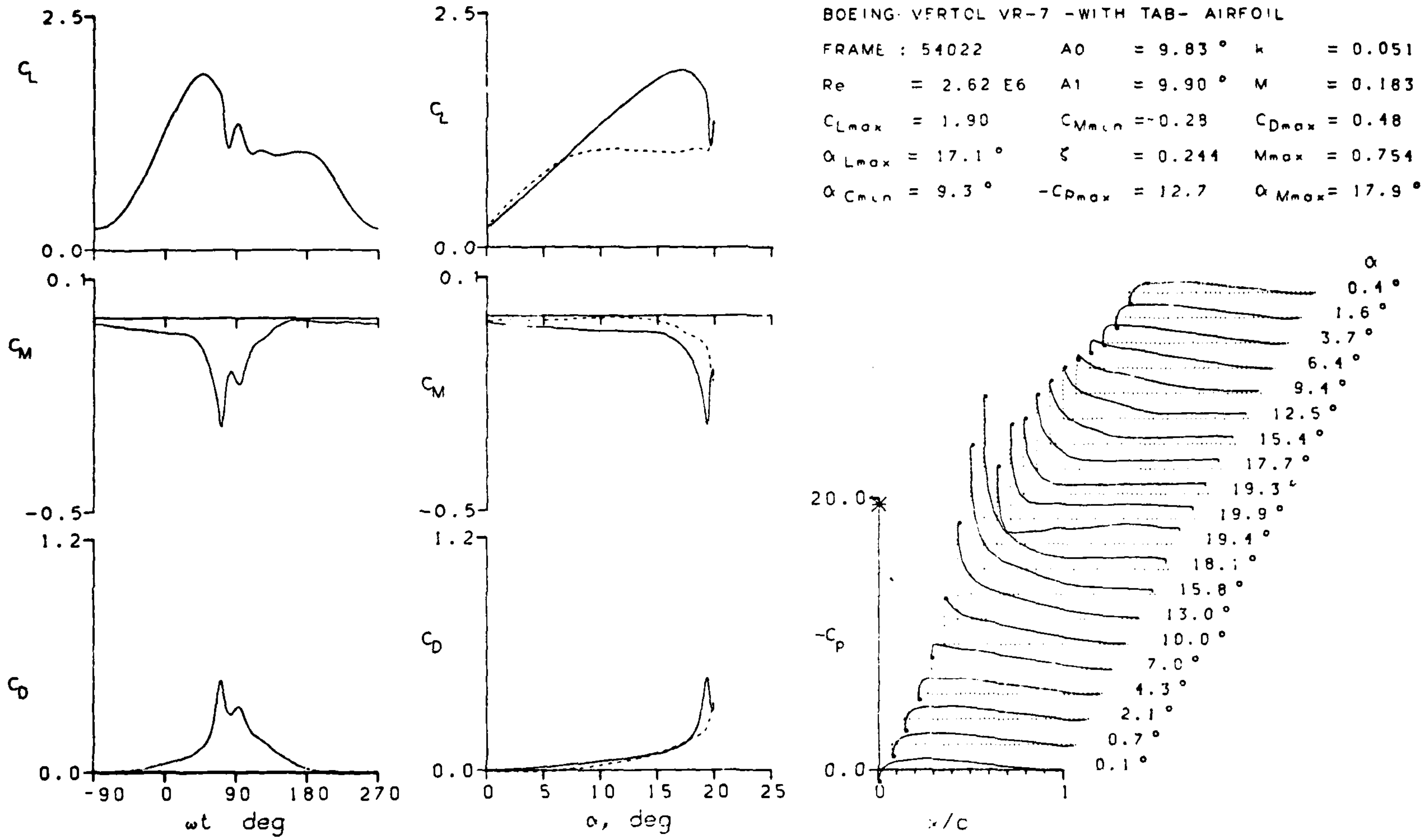

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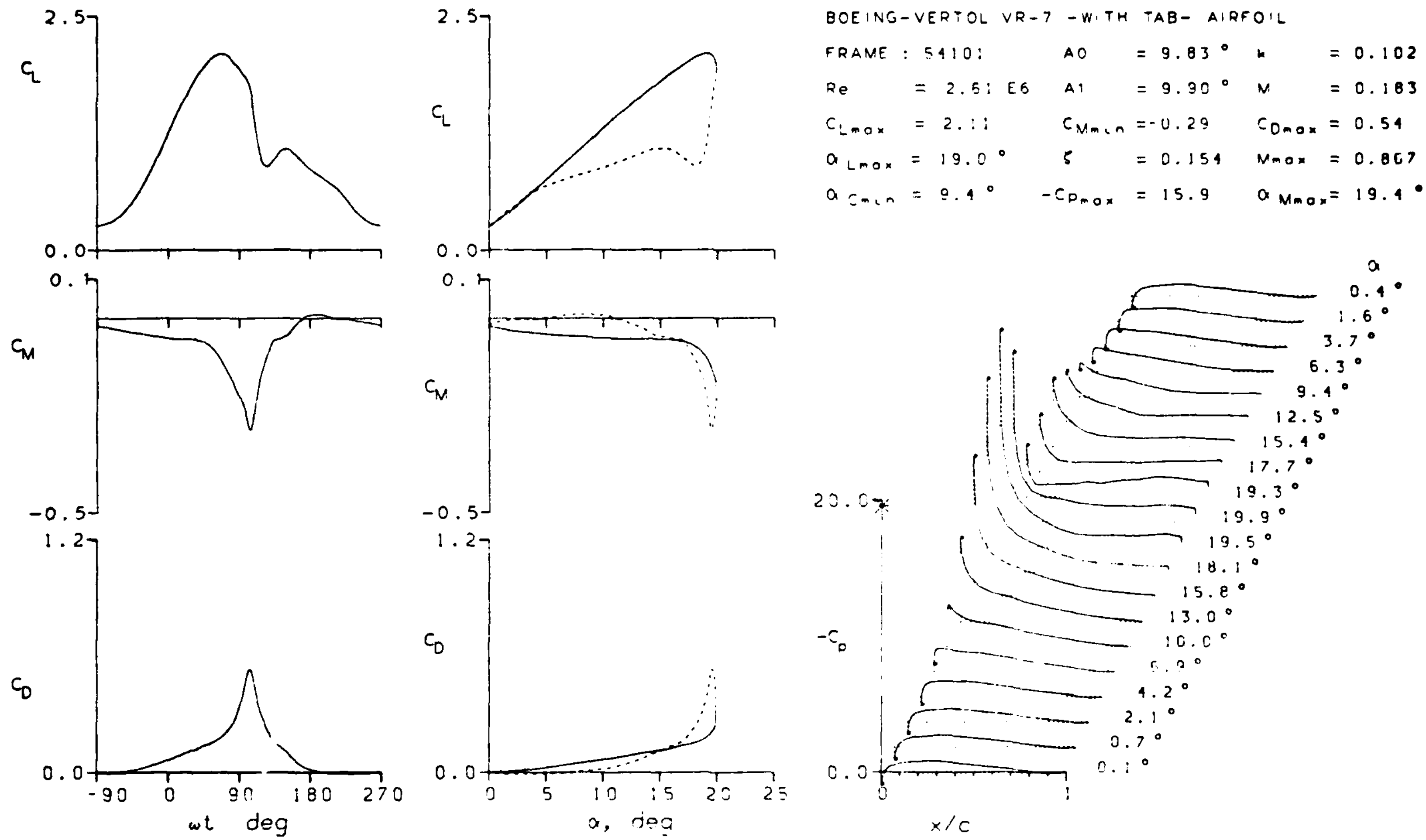

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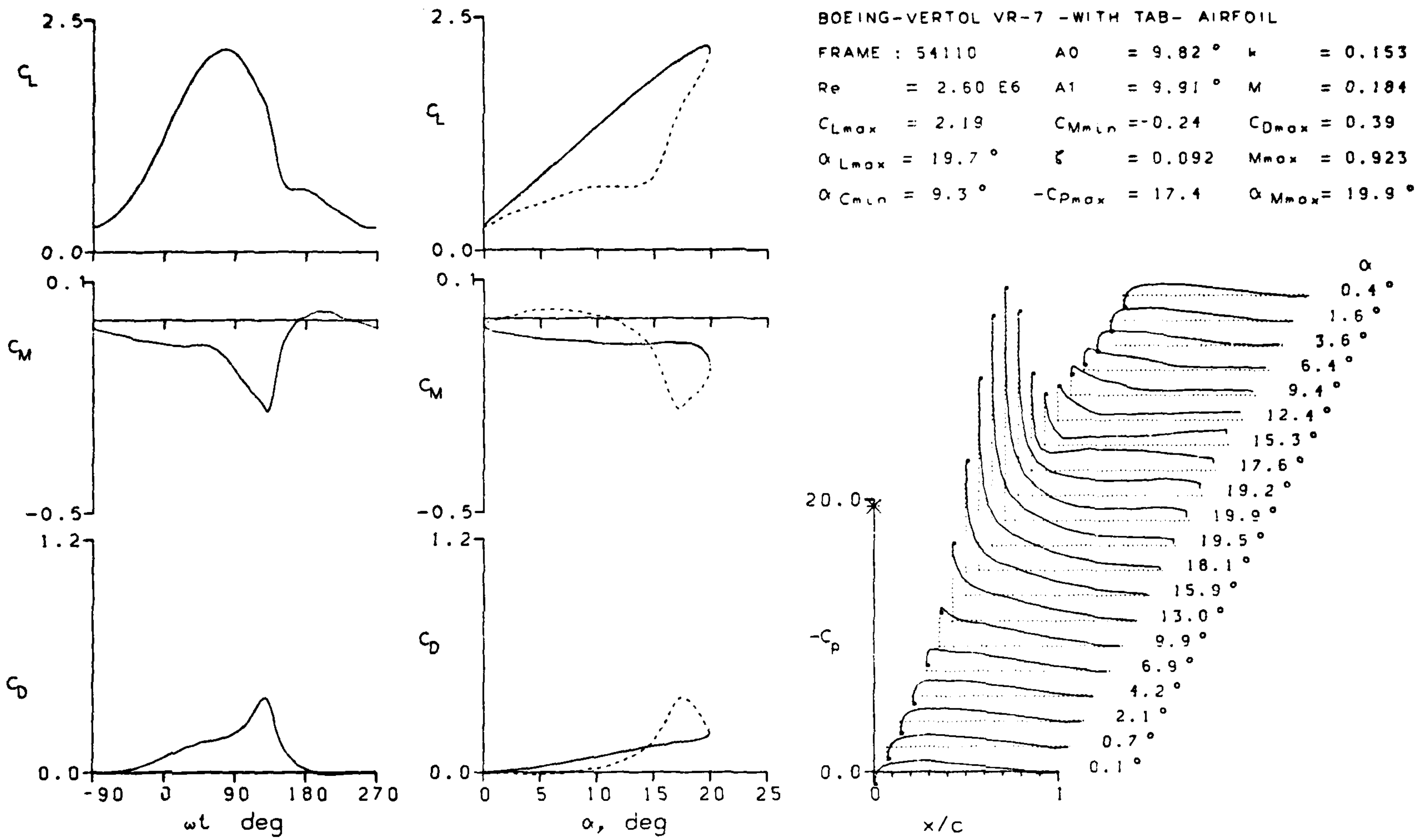

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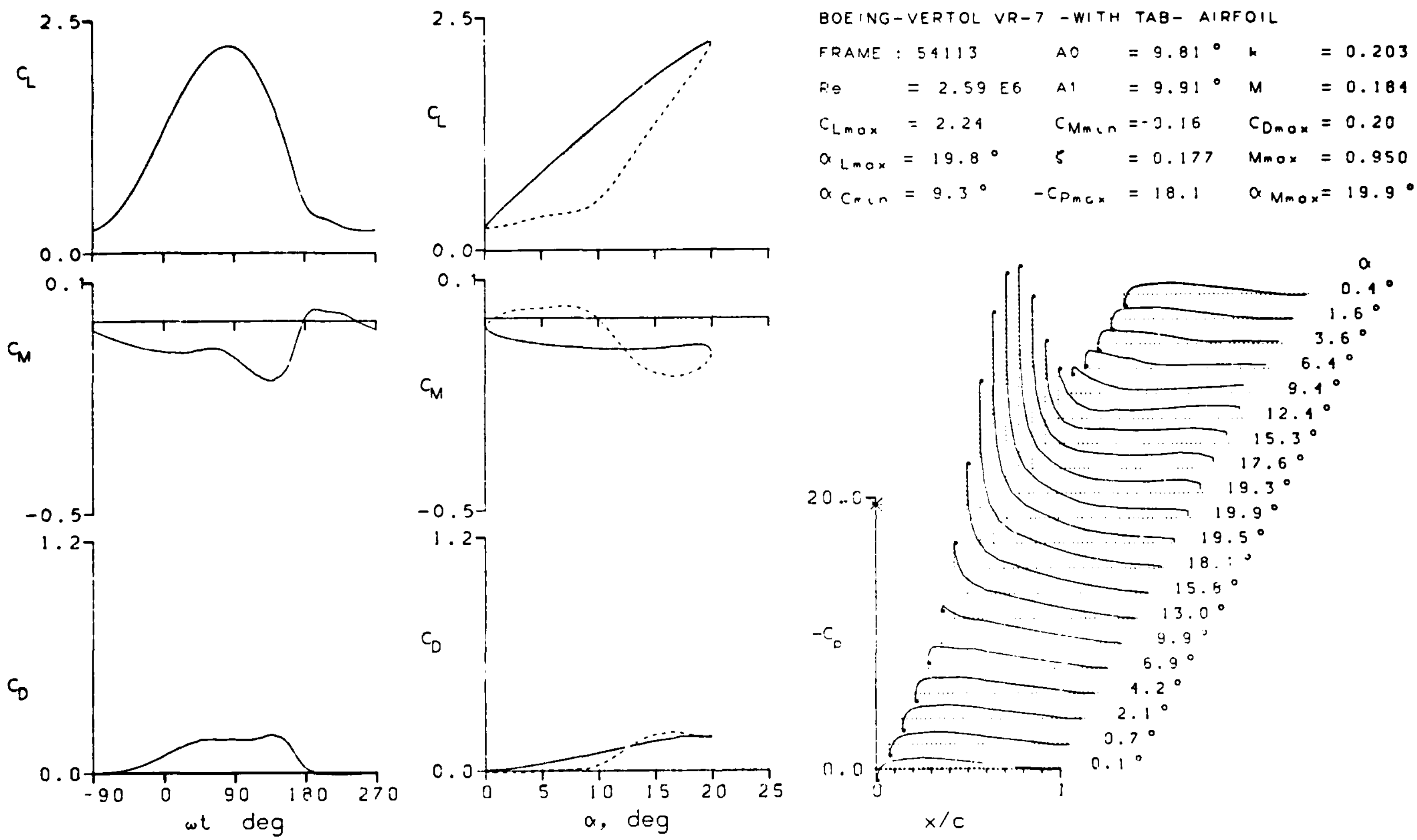

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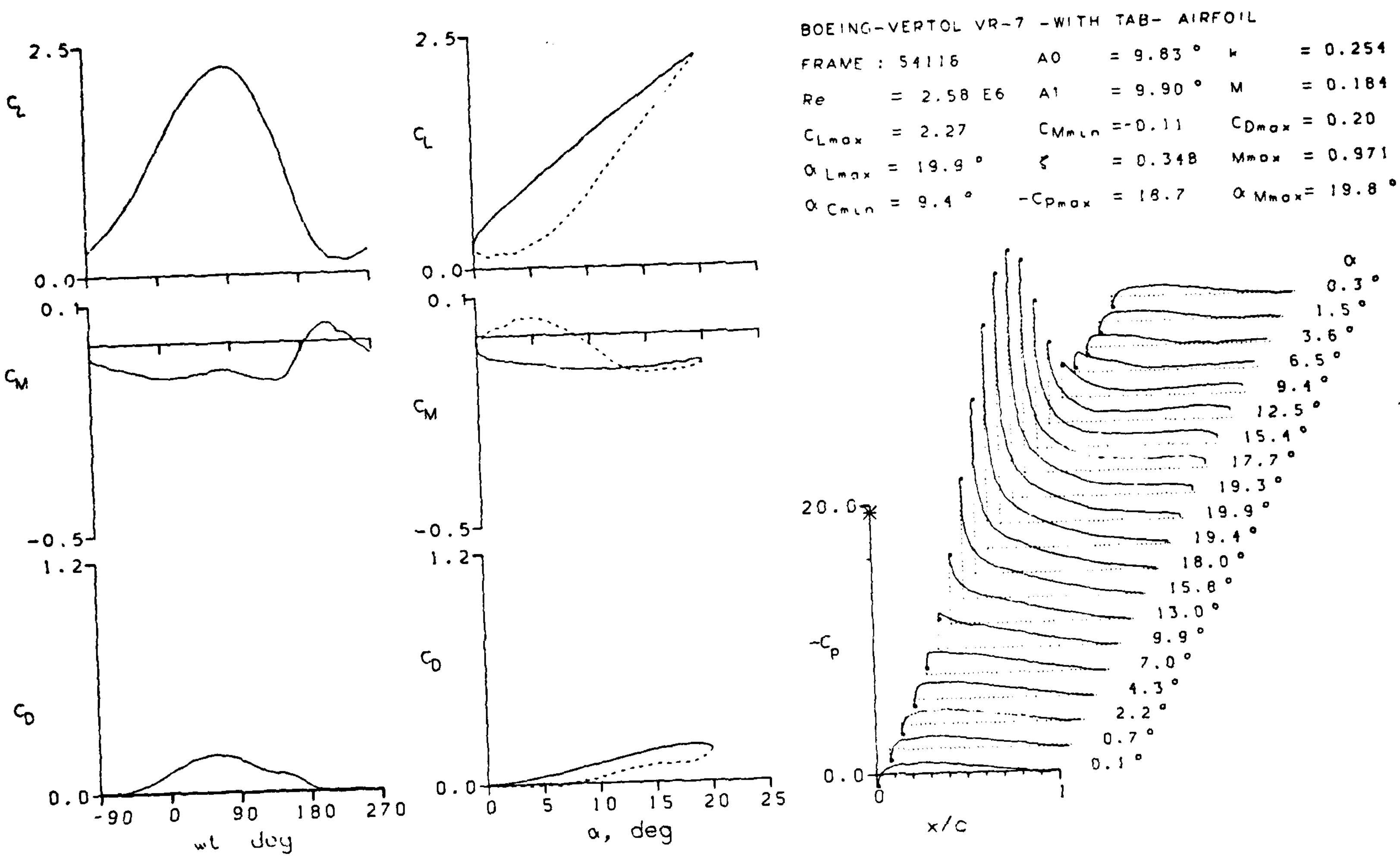

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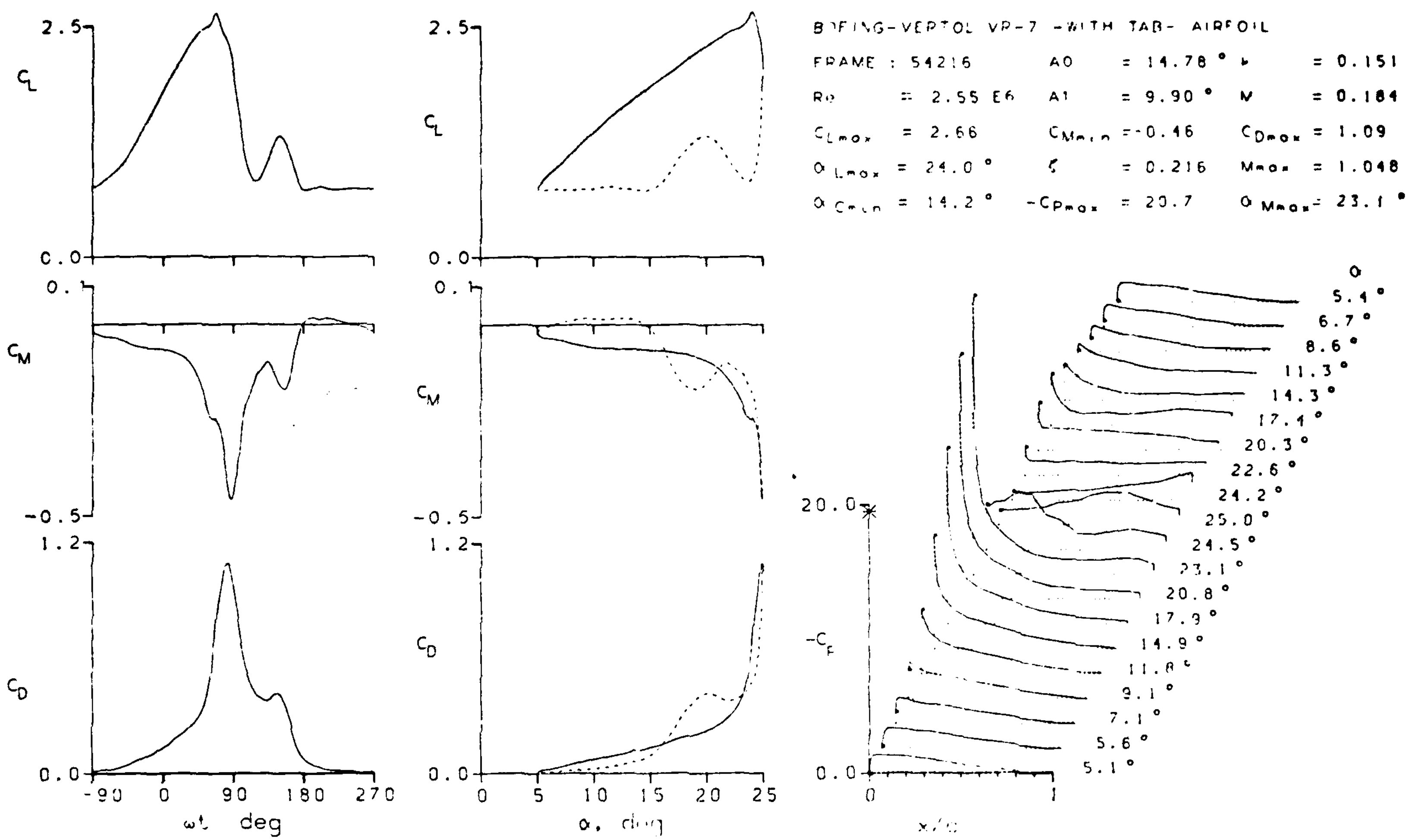

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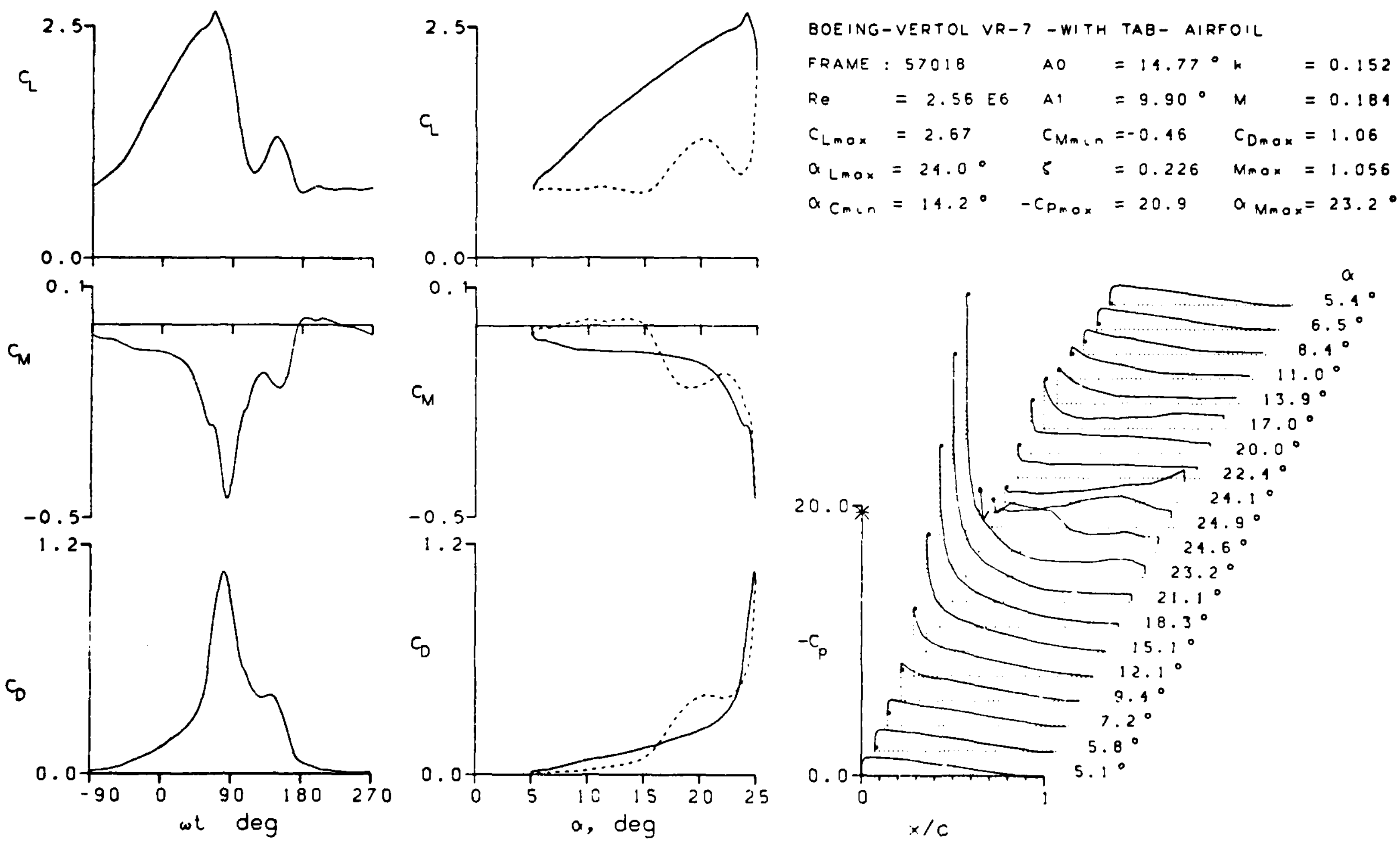

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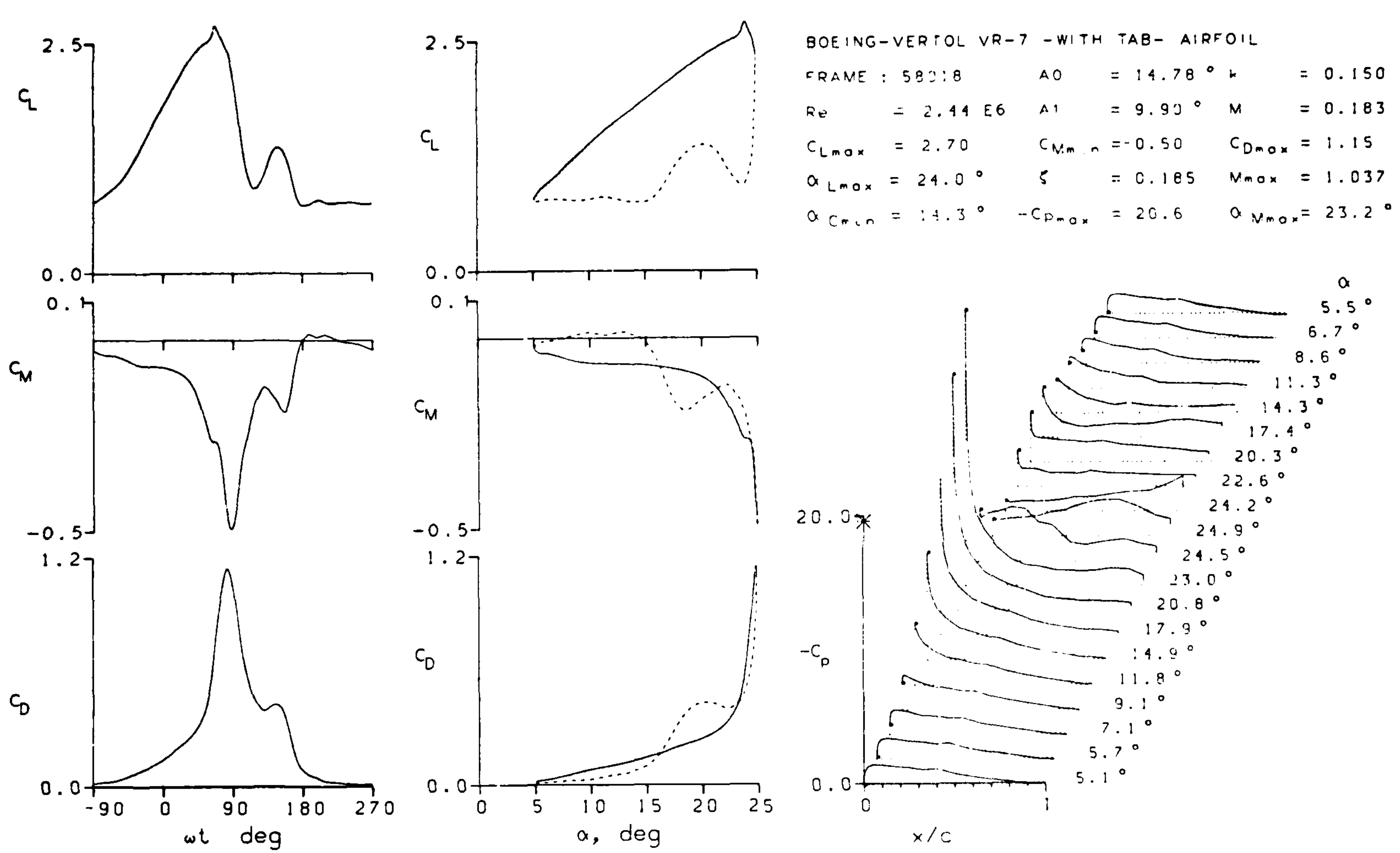

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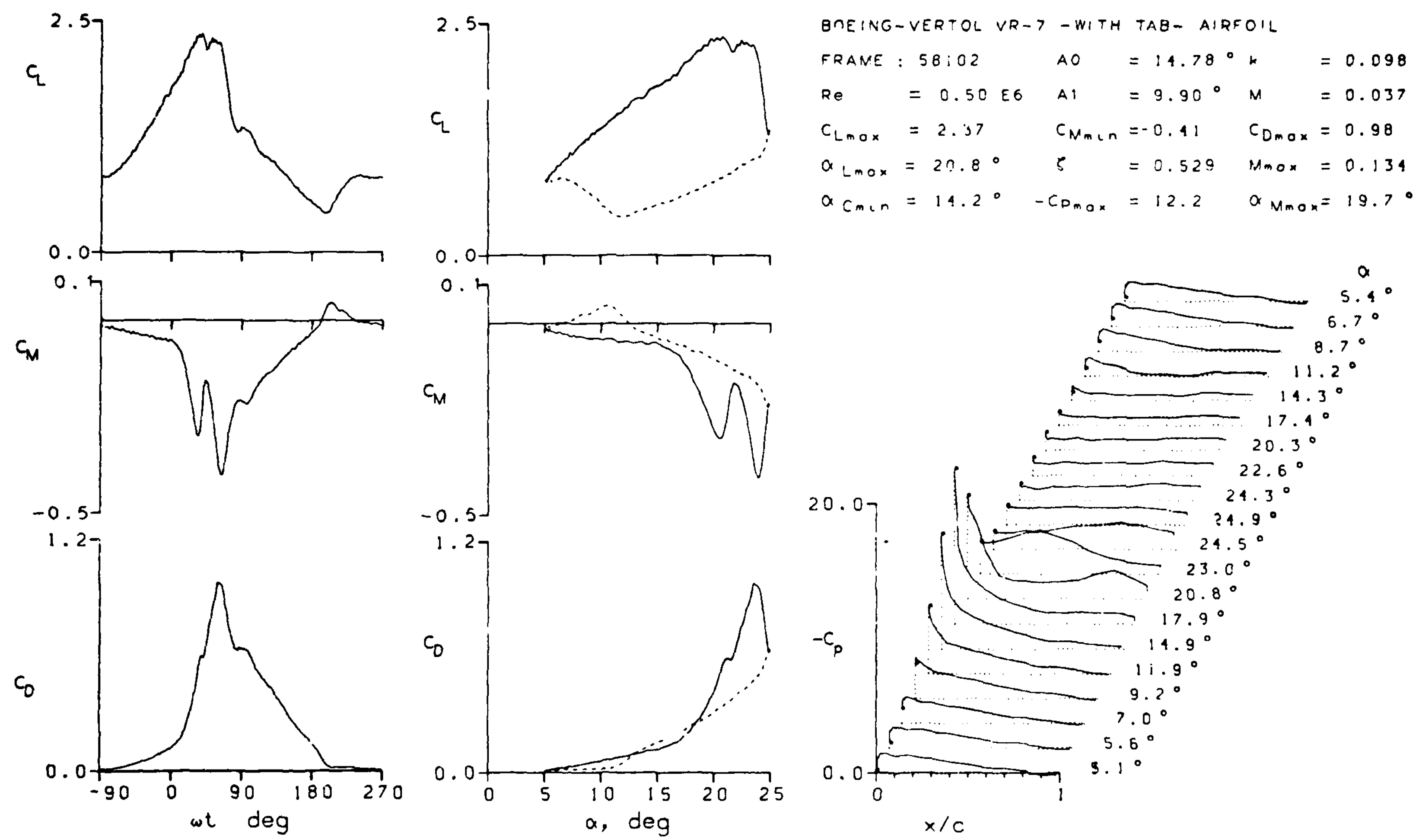

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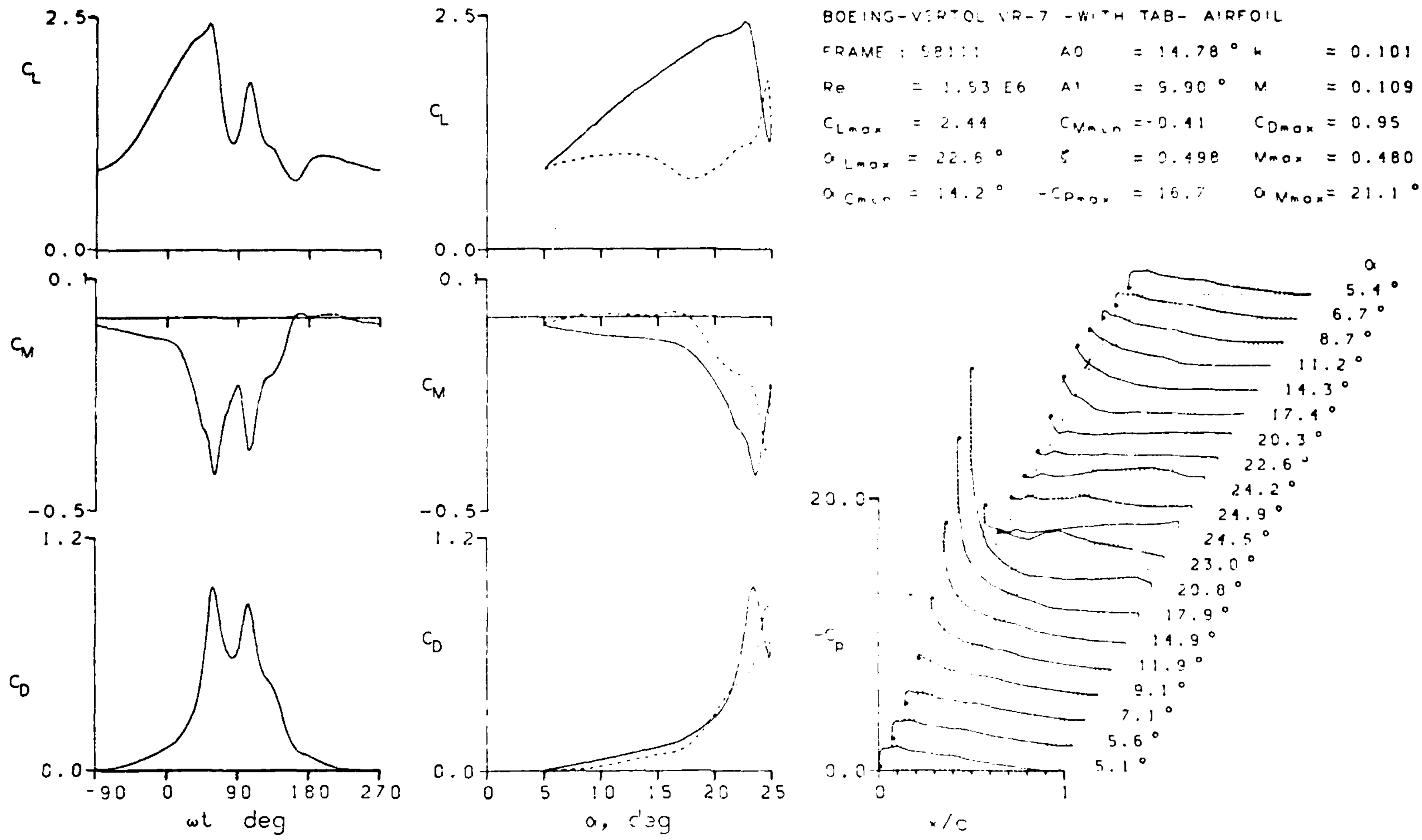

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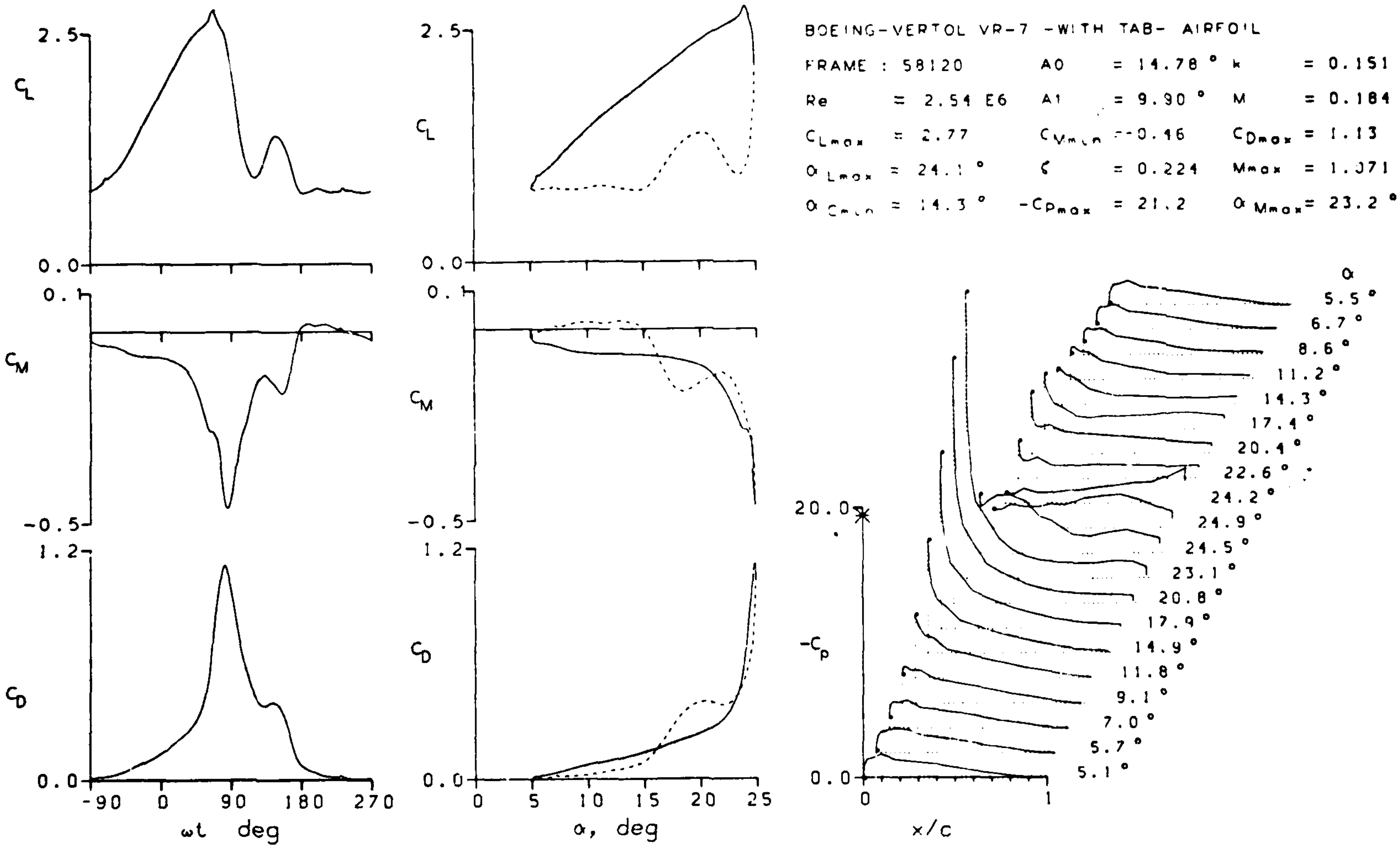

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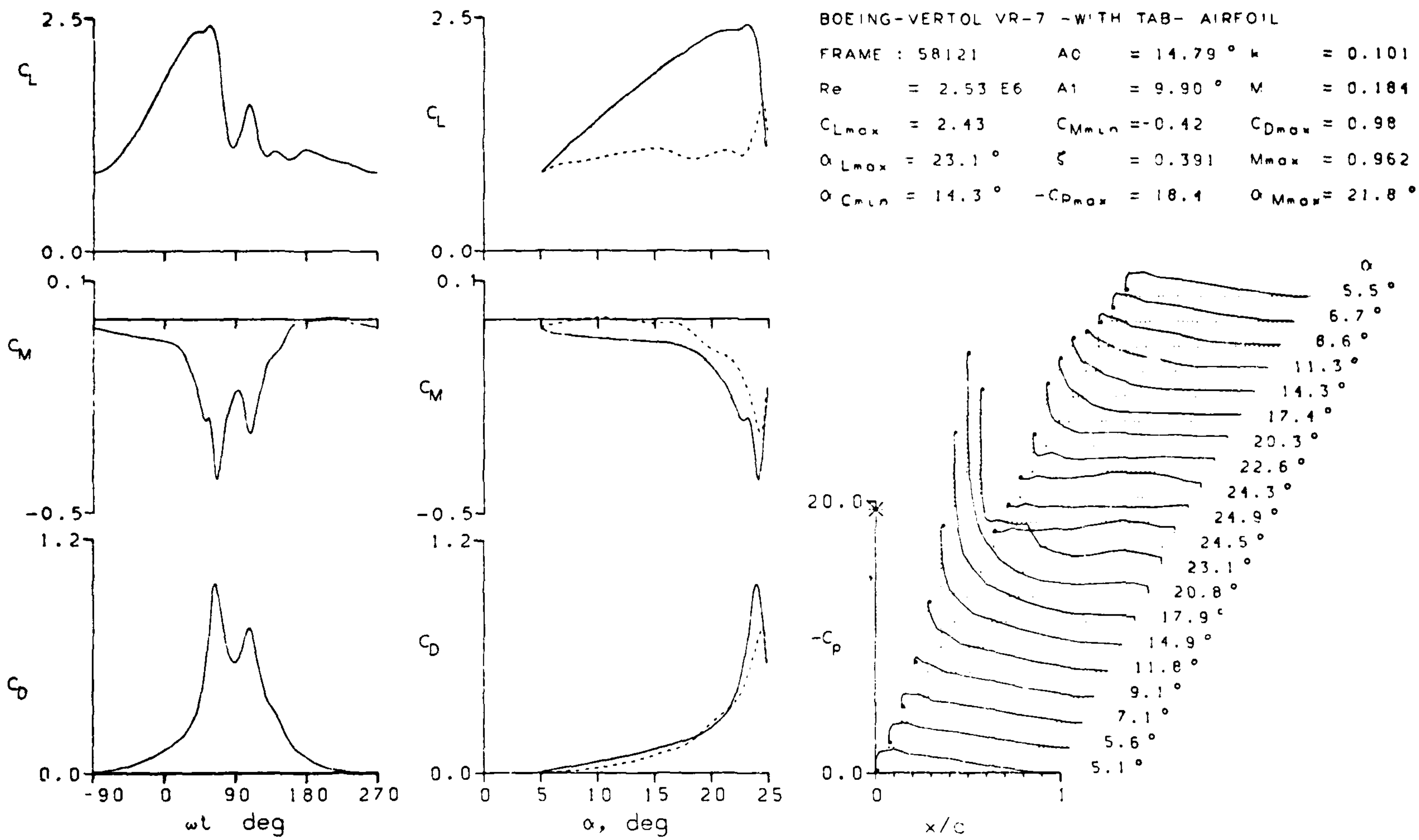

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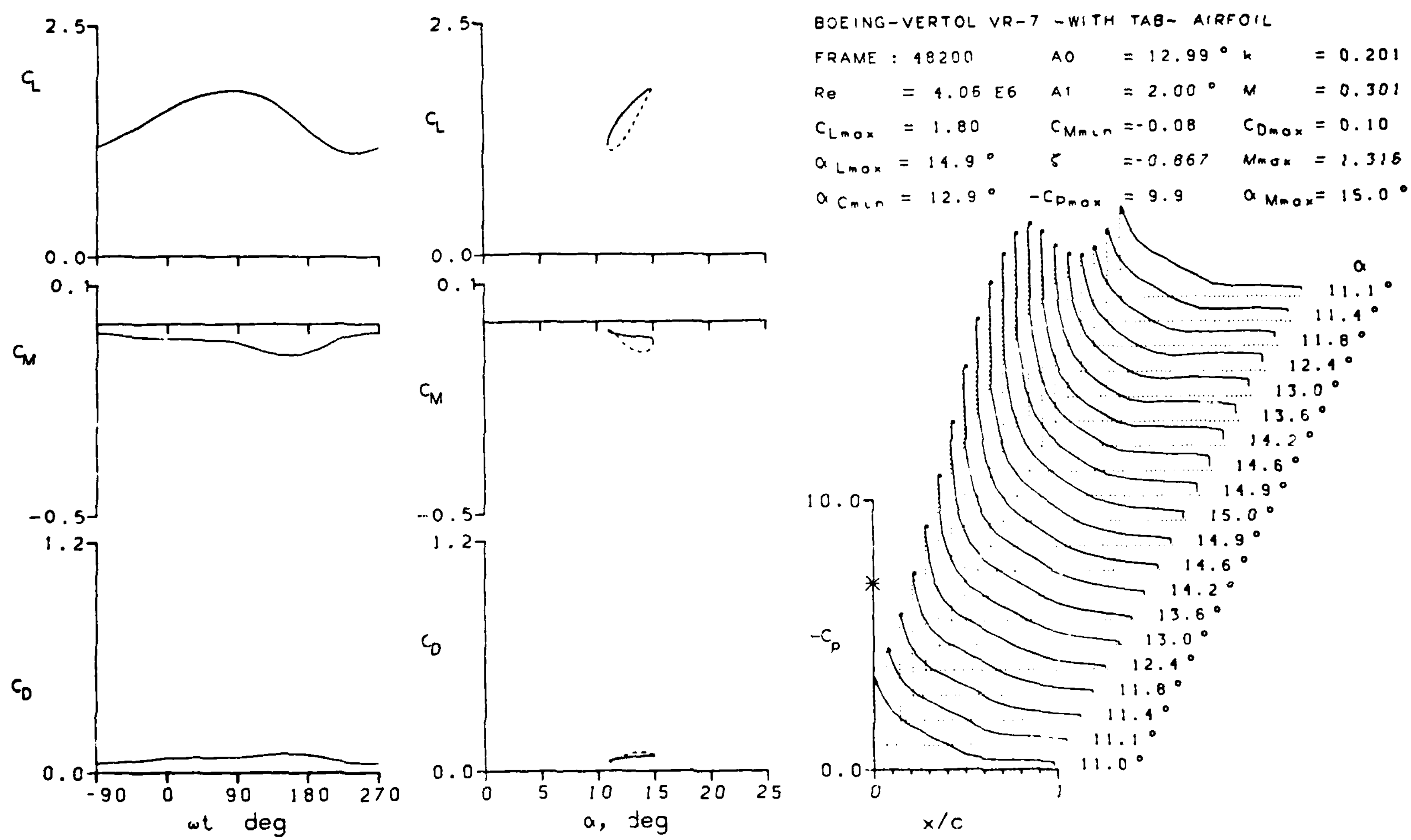

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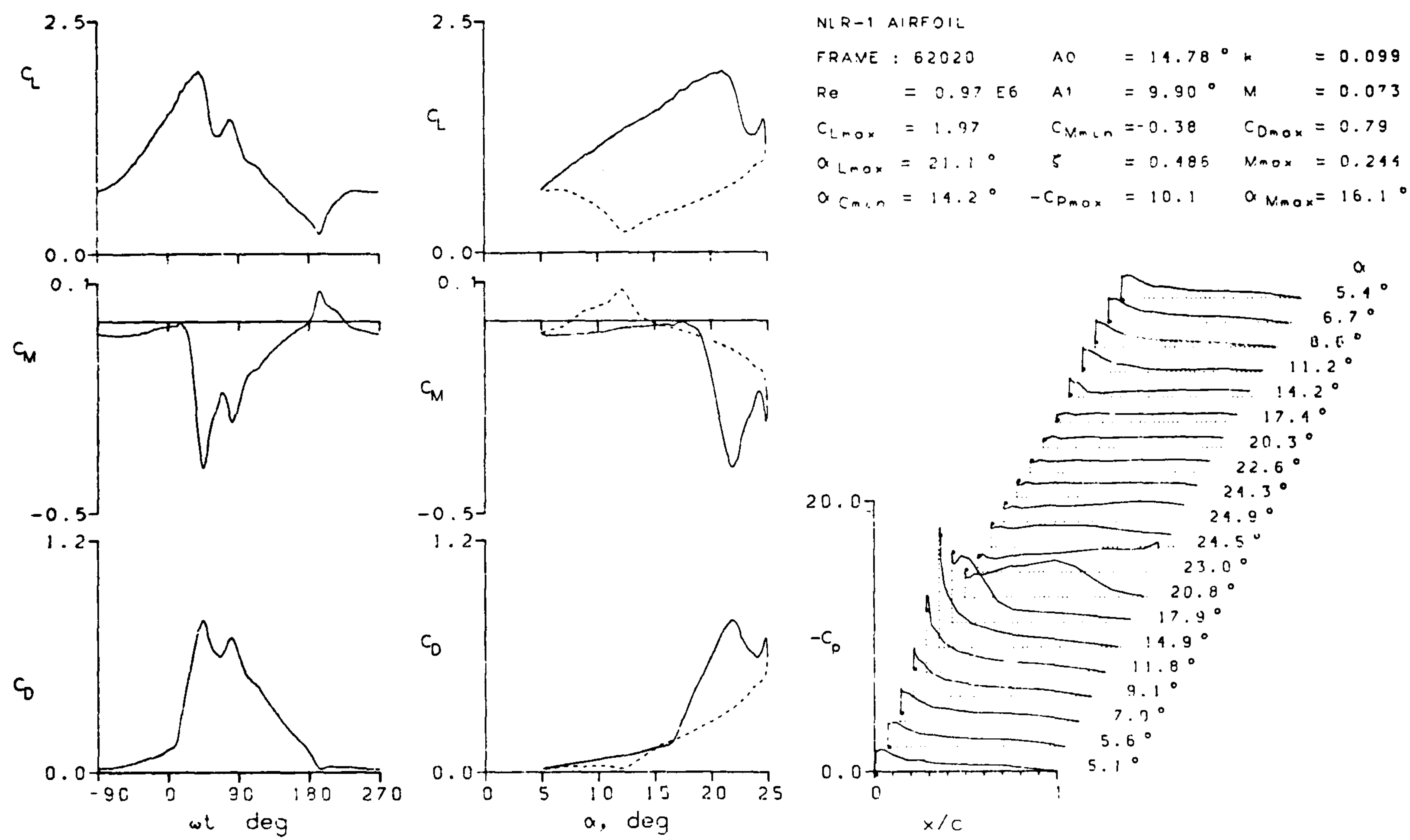
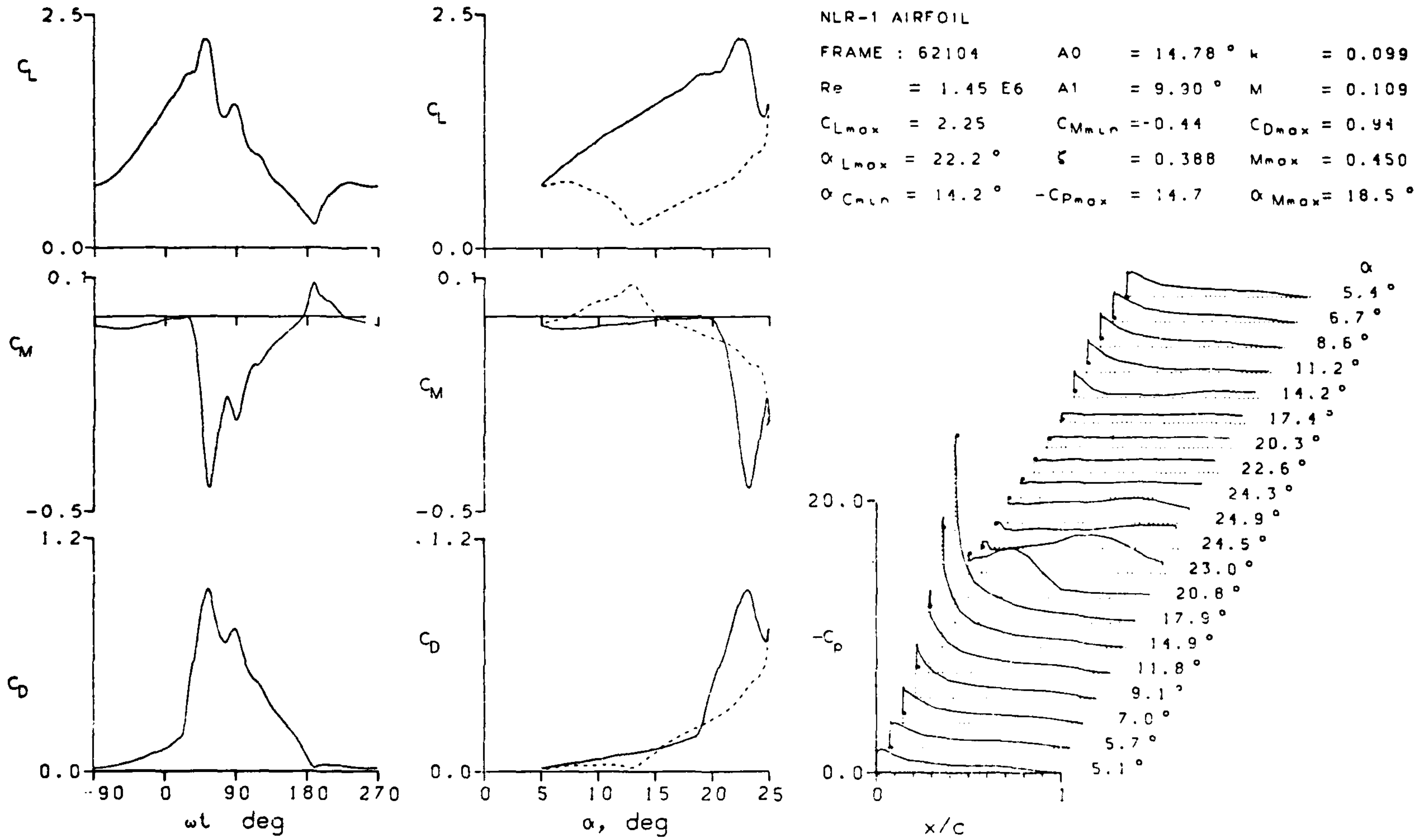


Figure 18.- Dynamic data for NLR-1 airfoil.



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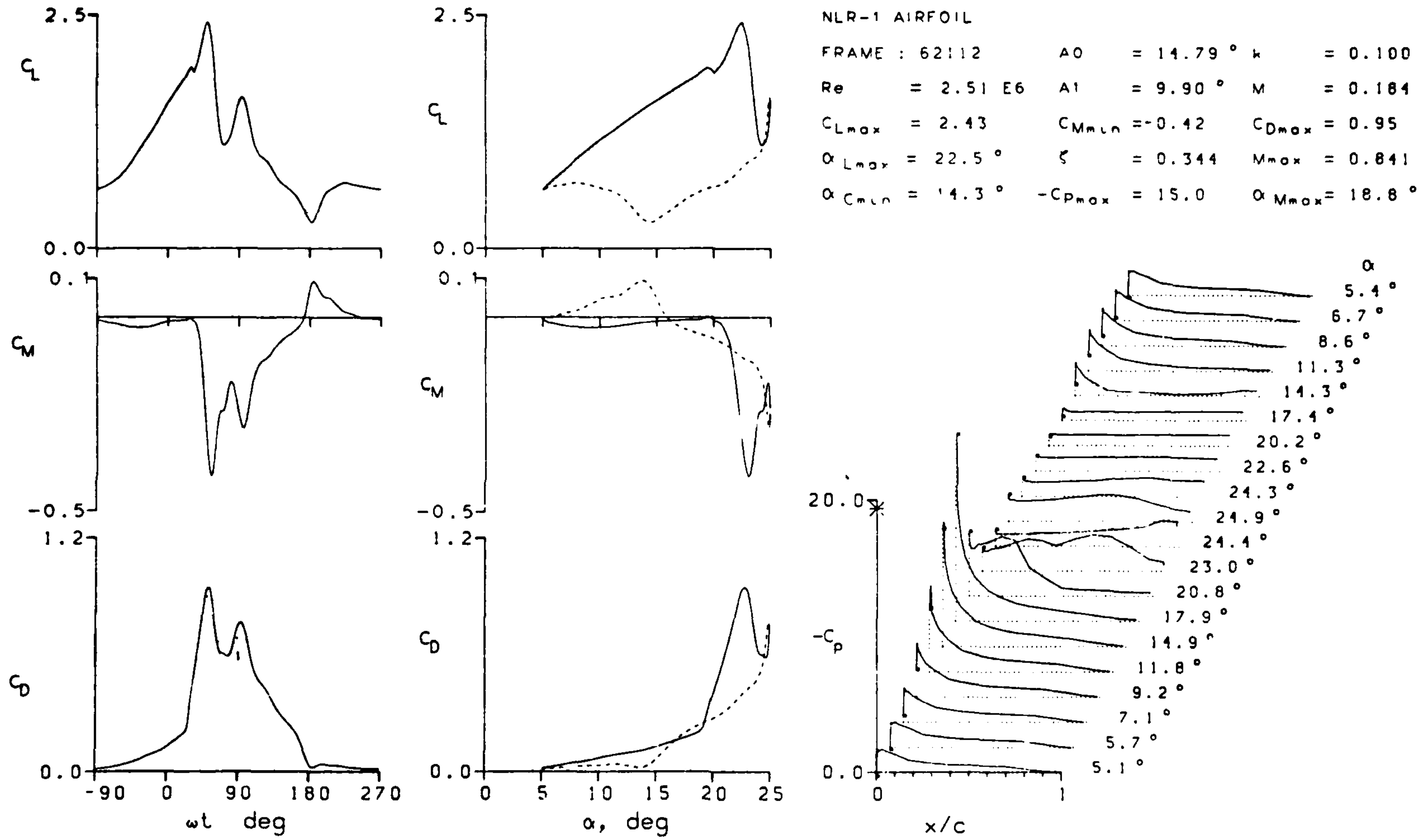

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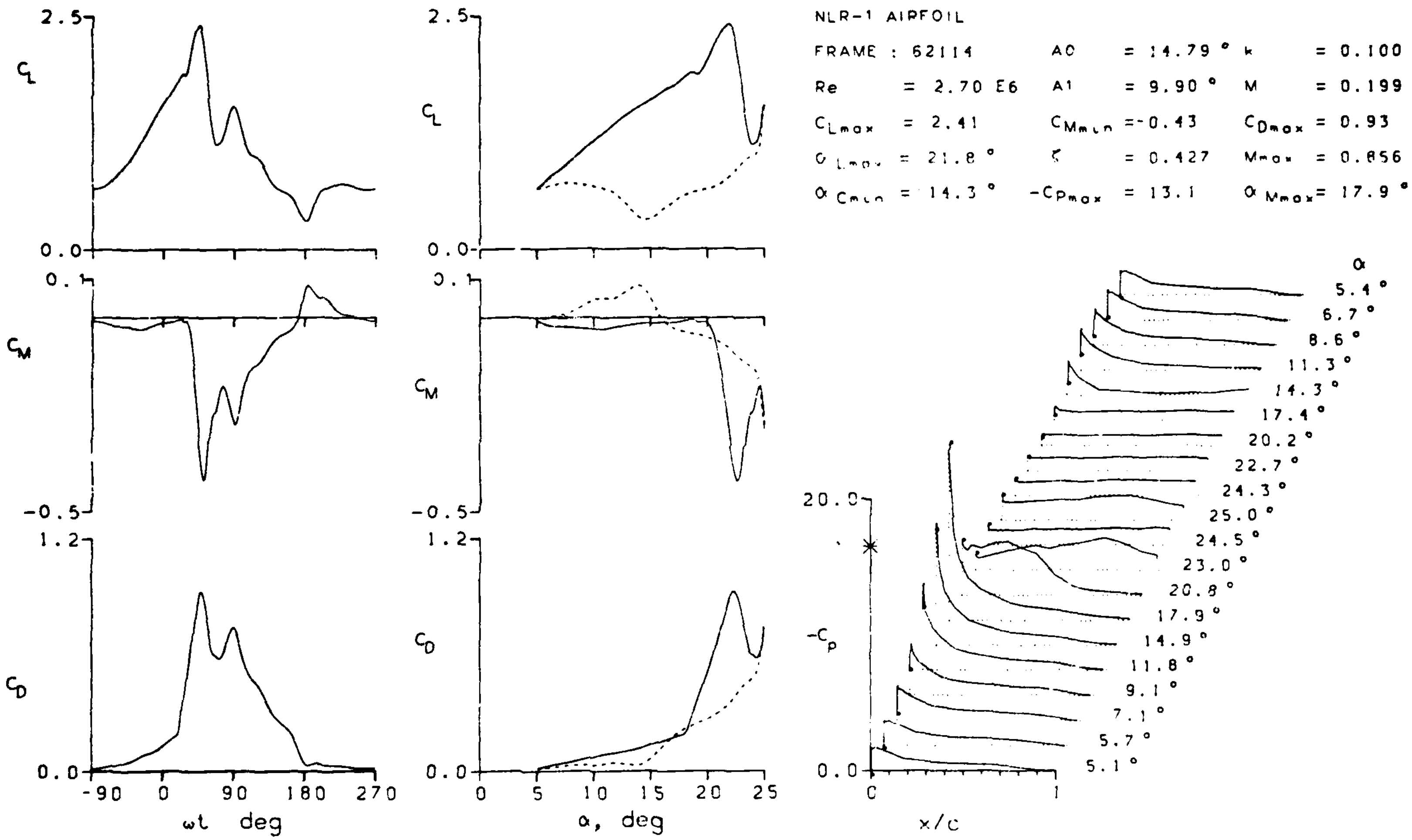

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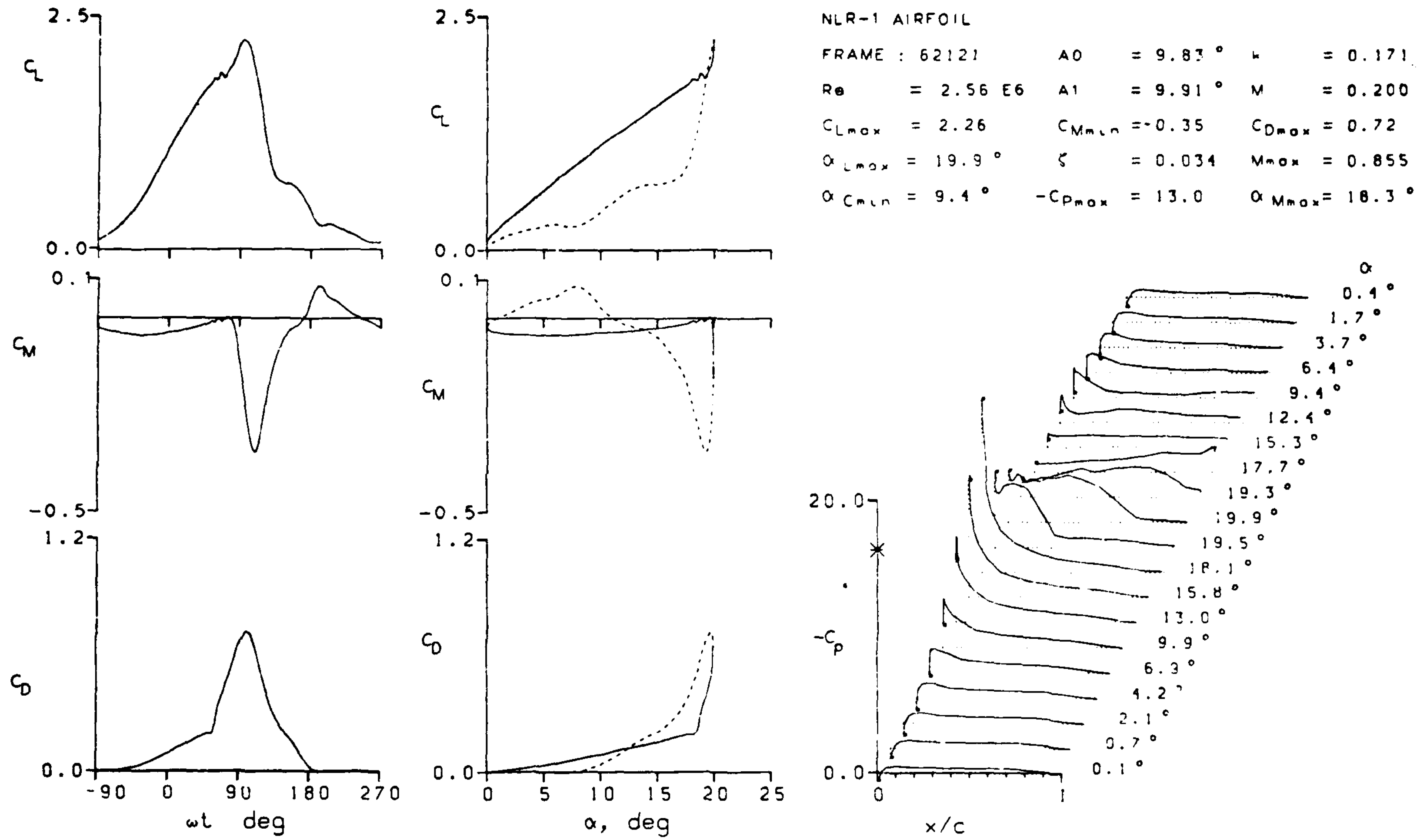

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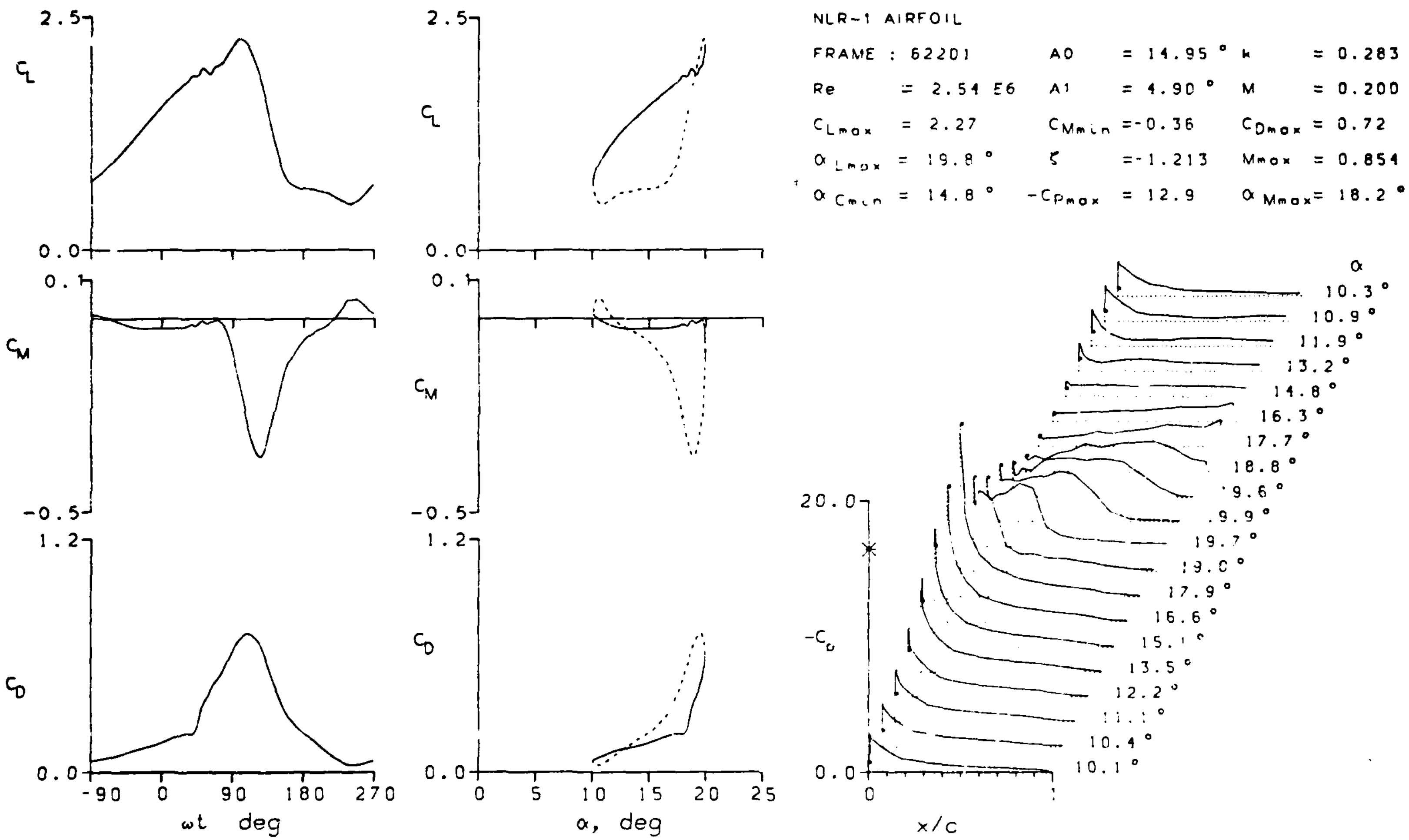

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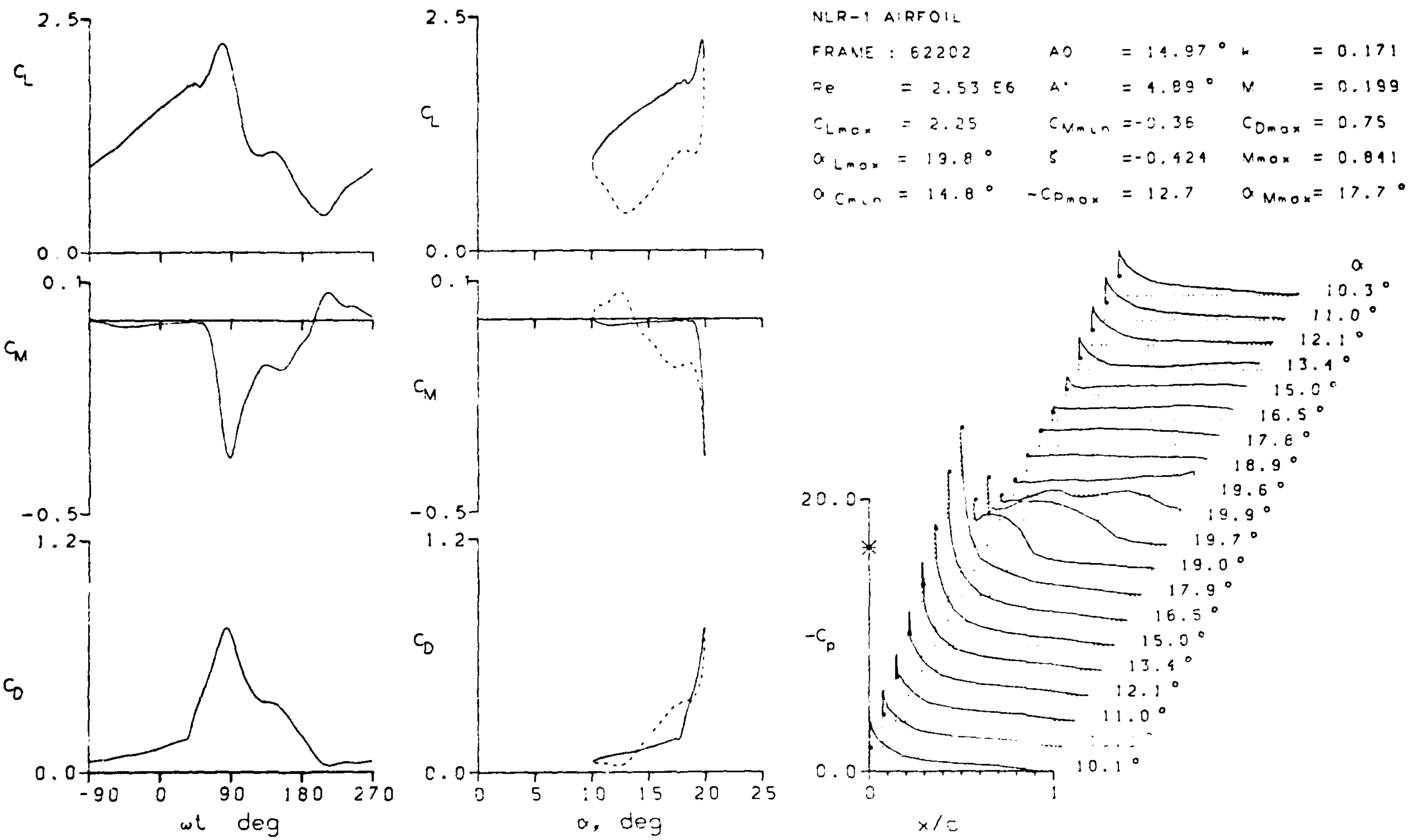

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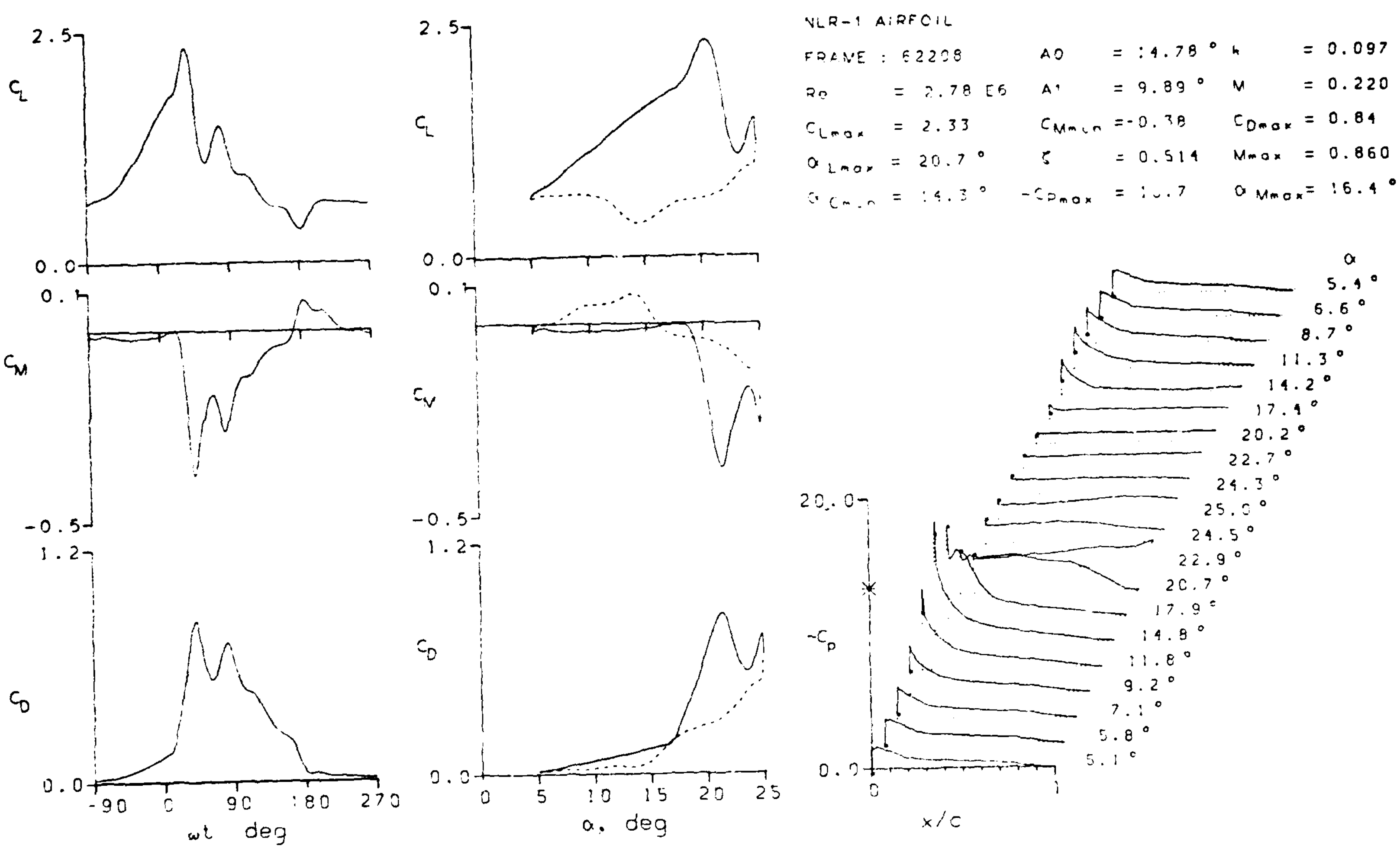

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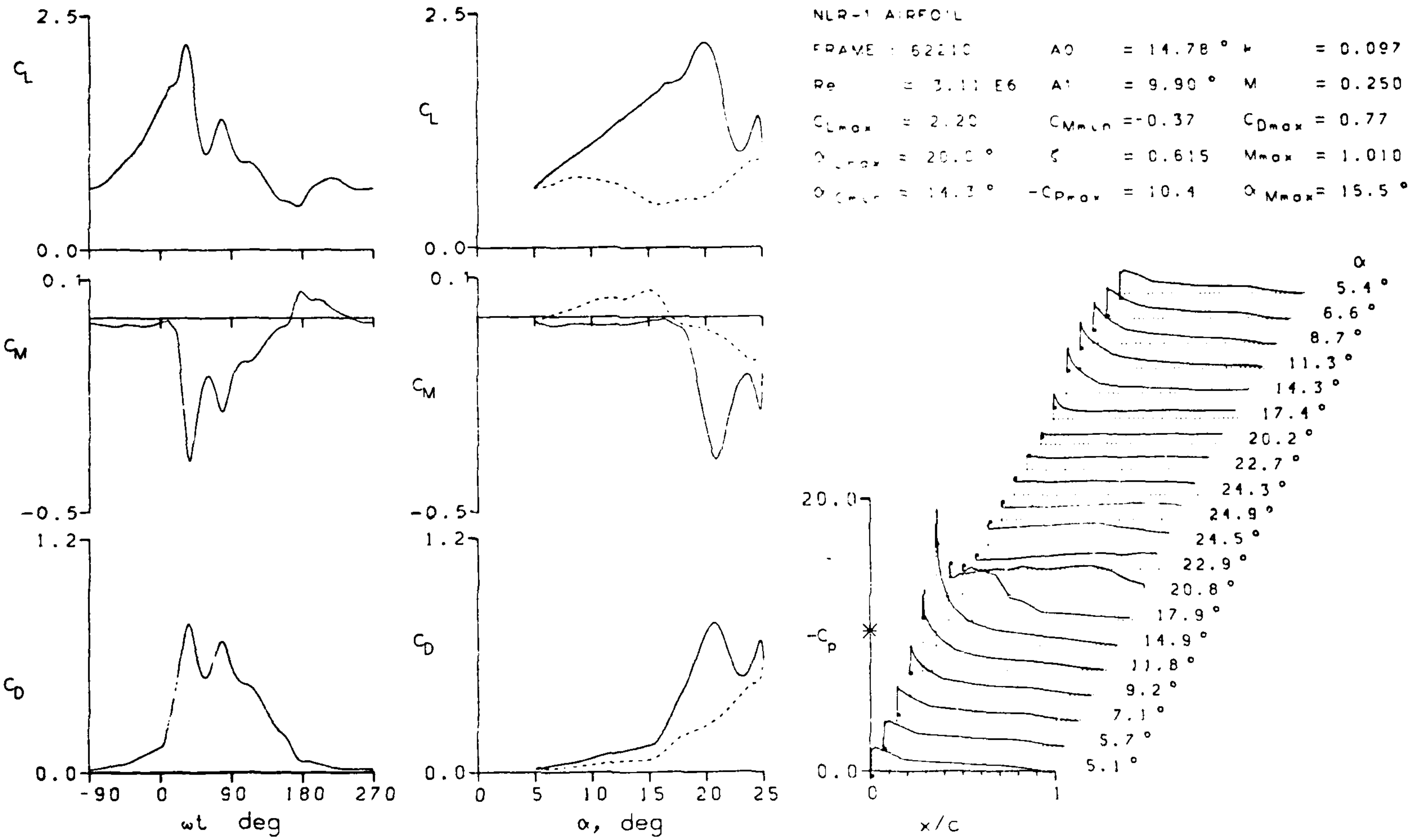

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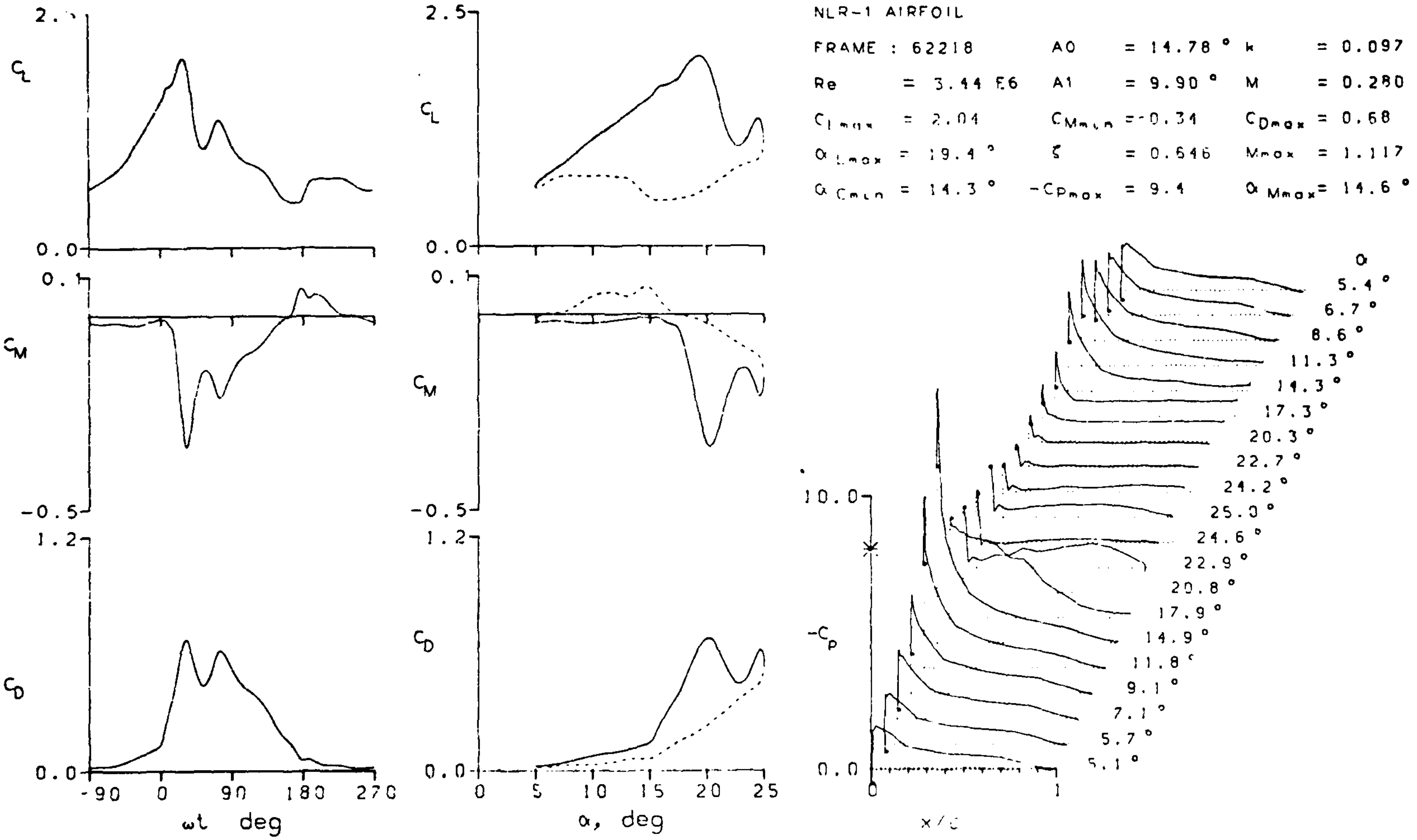

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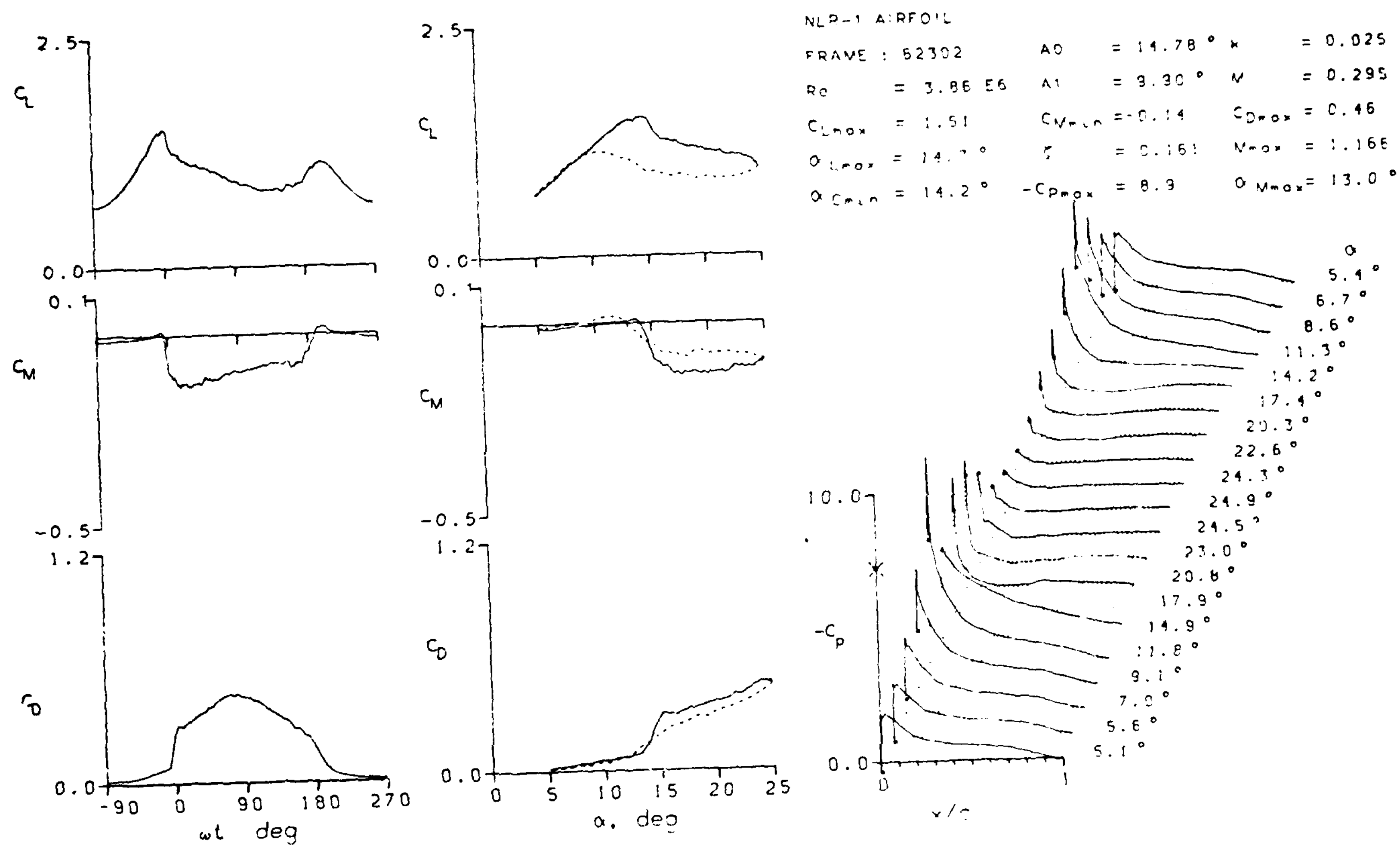

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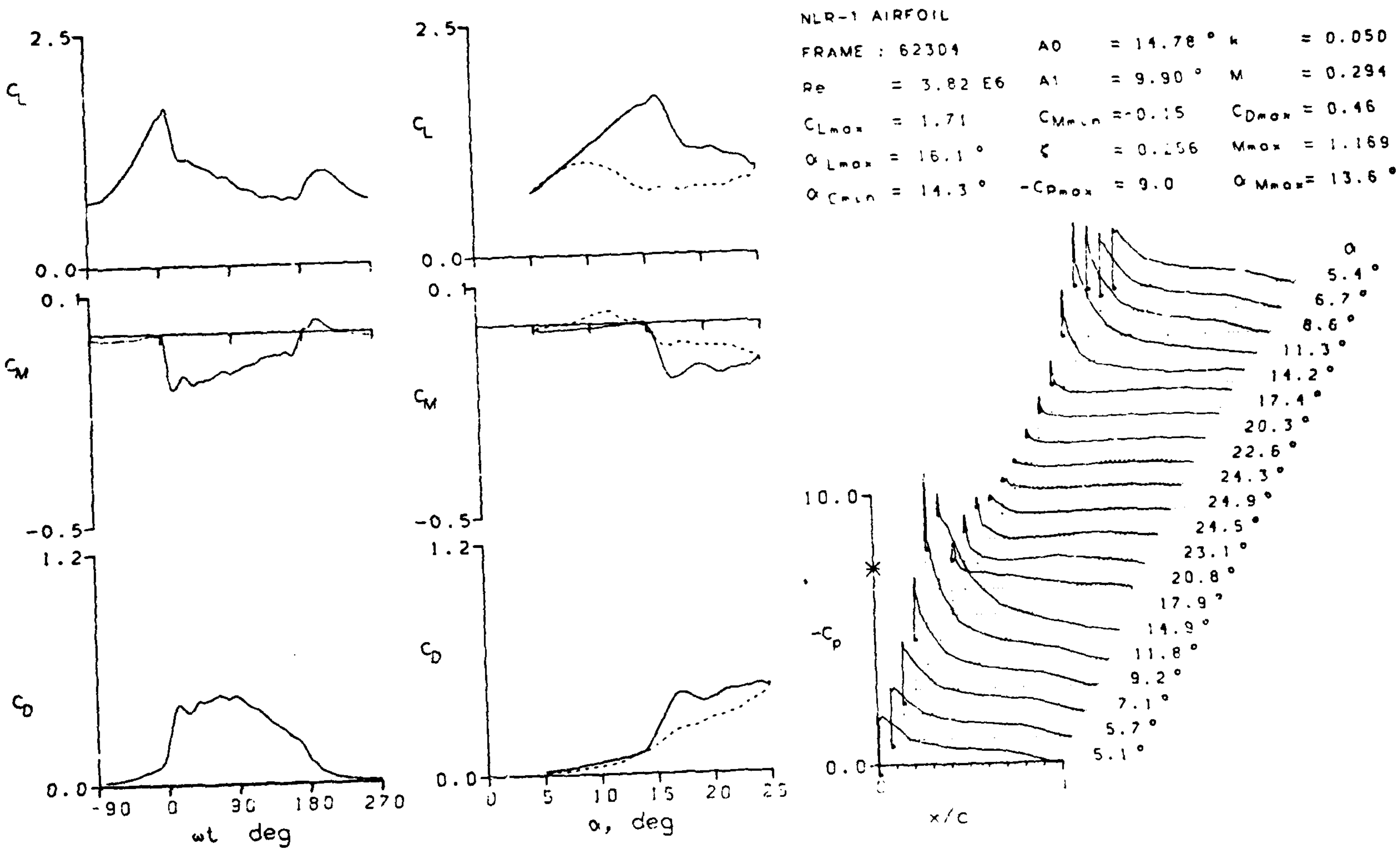

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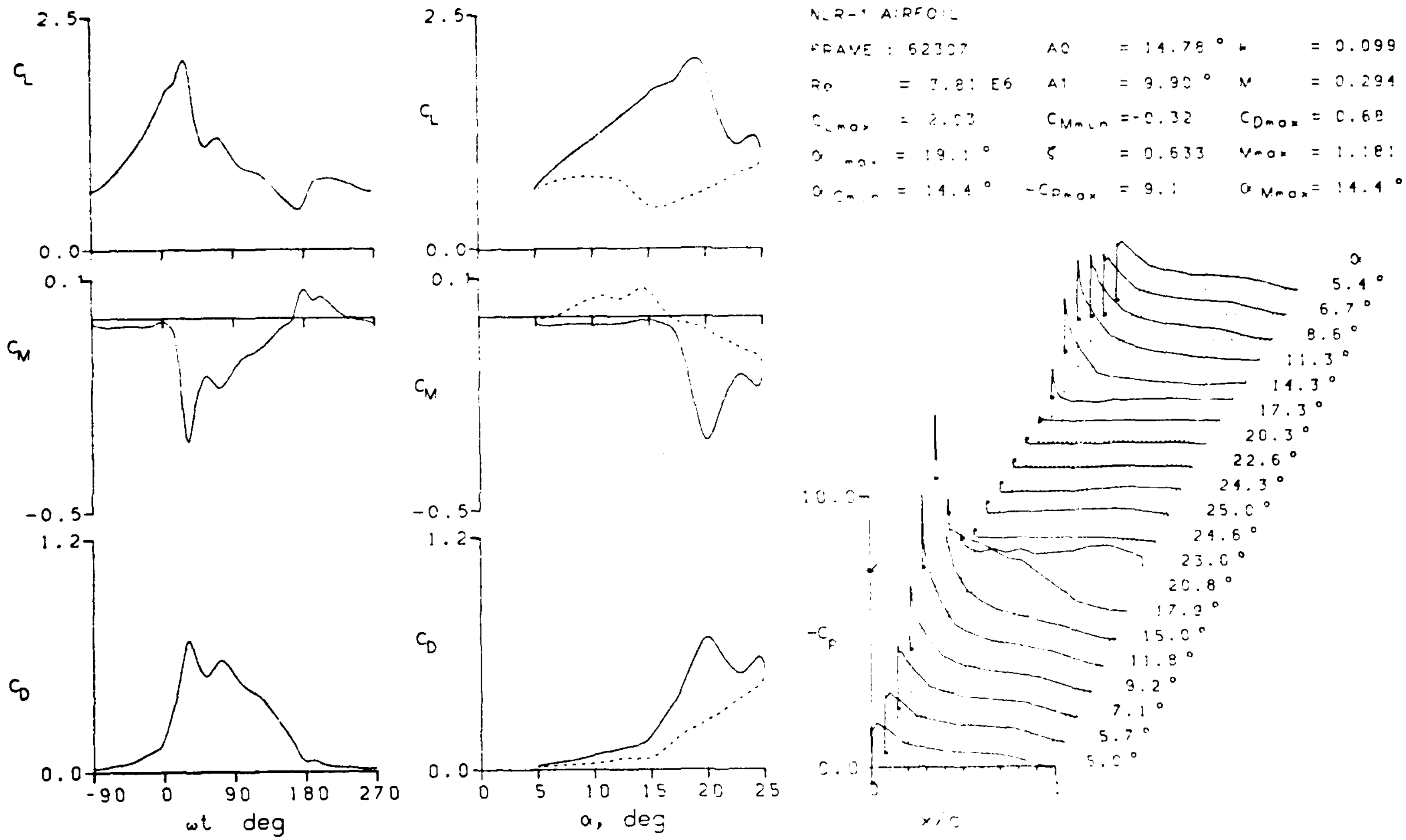

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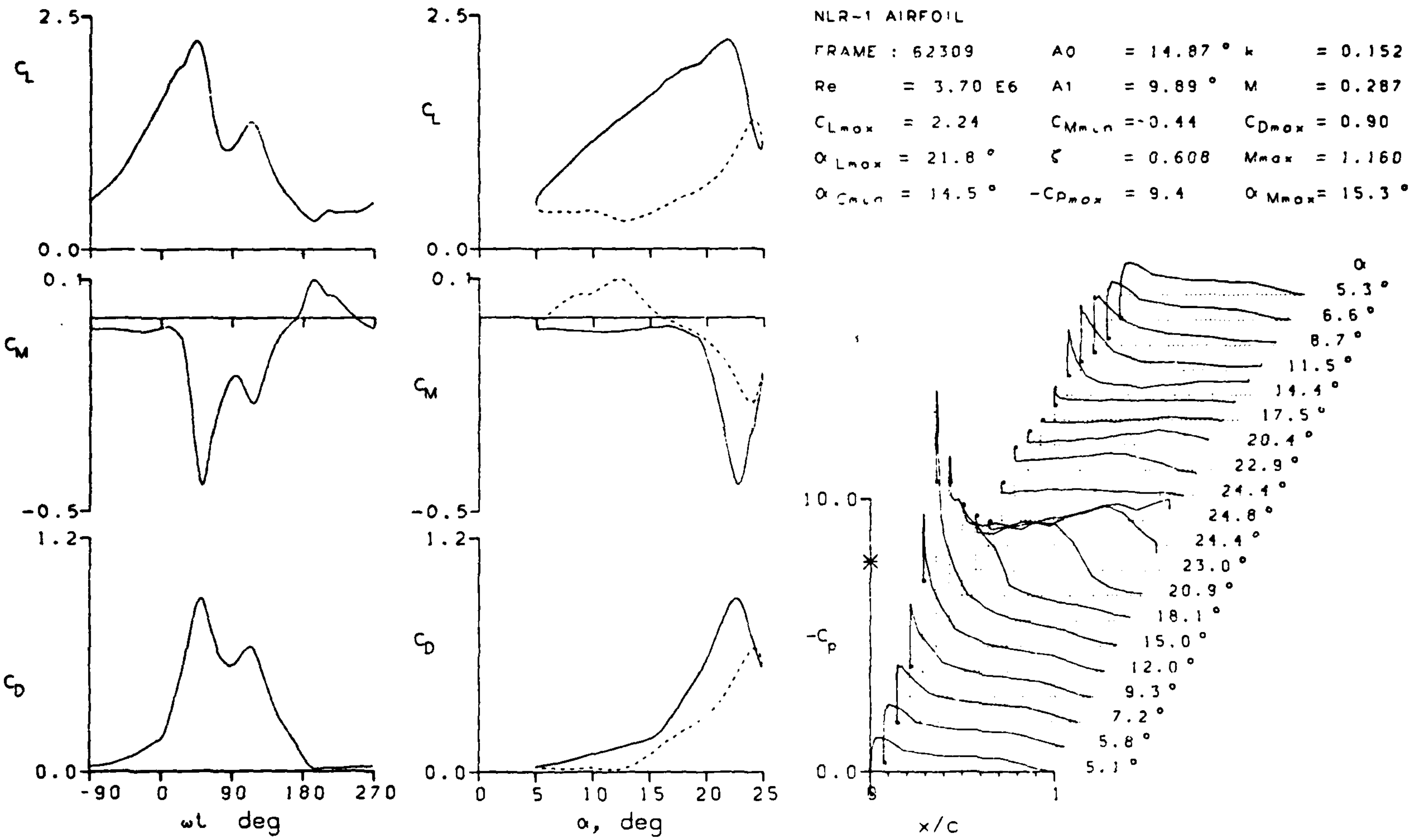

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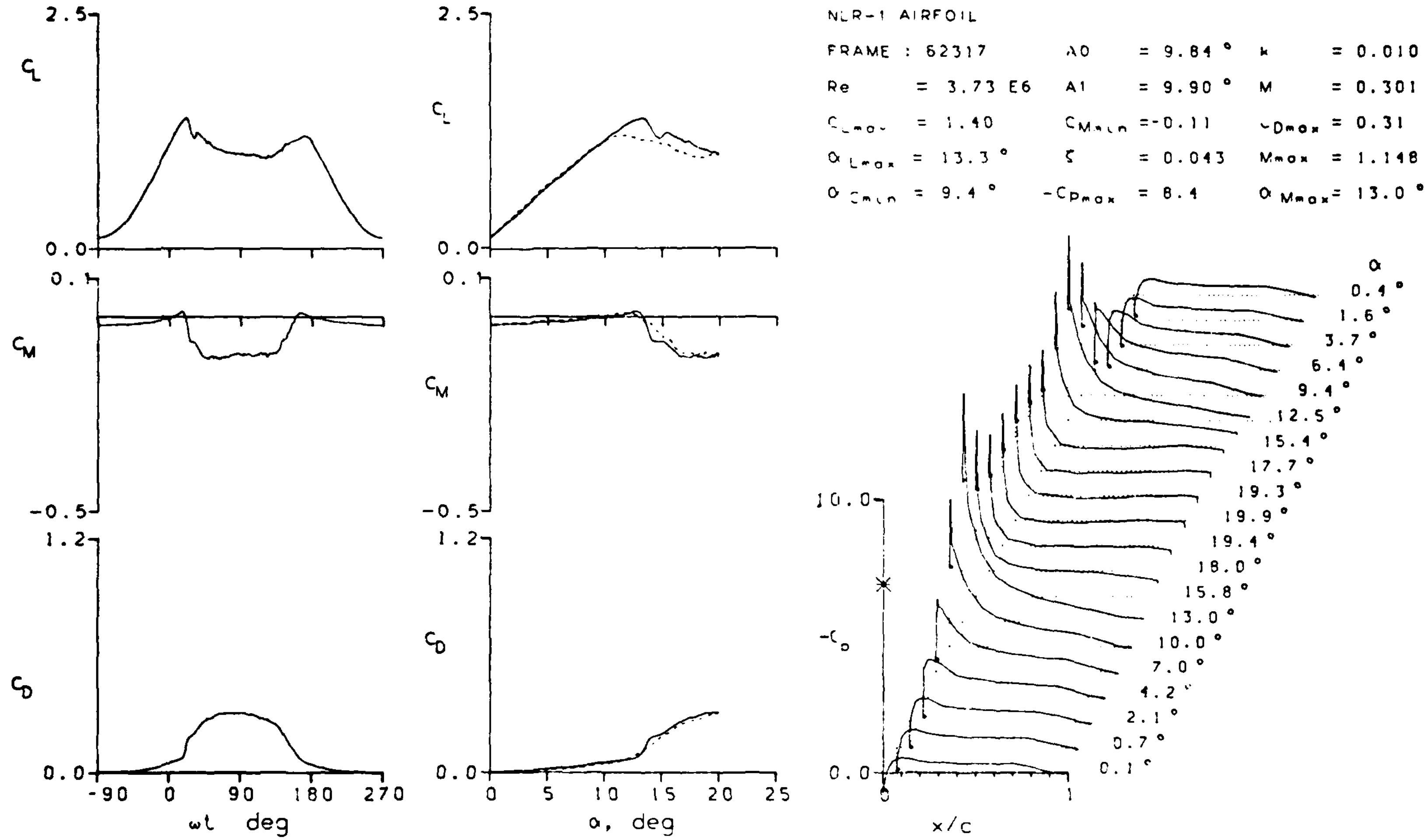

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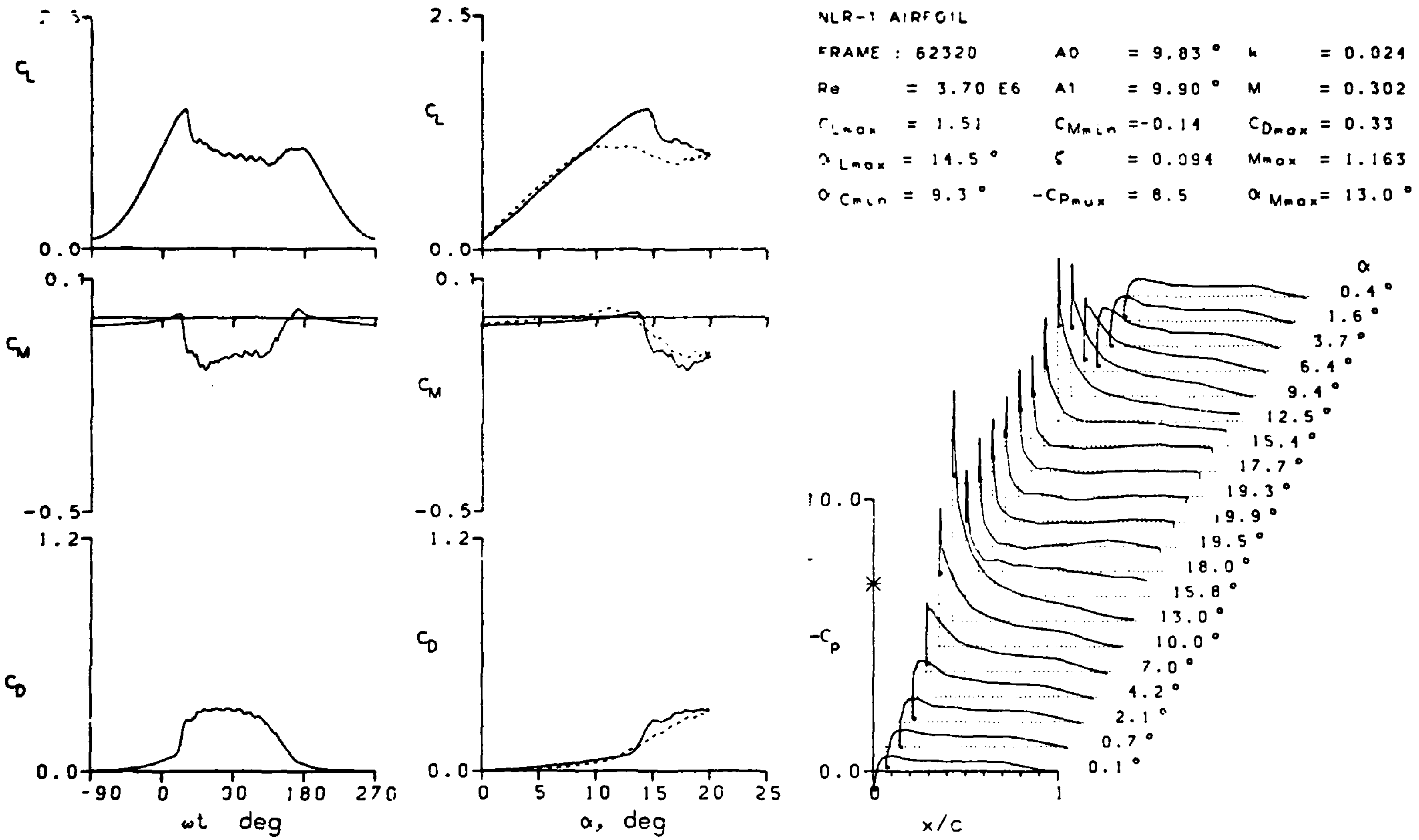

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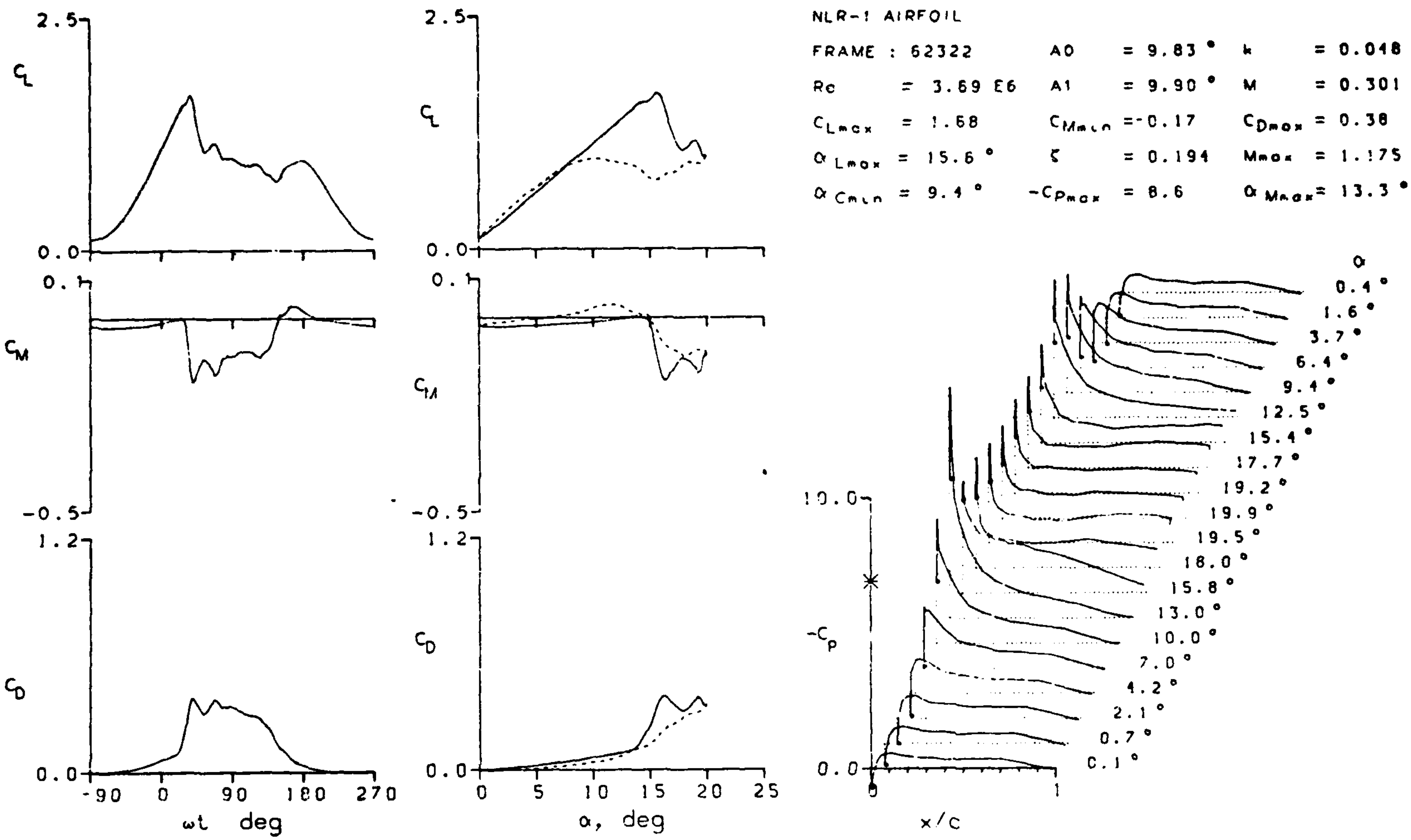

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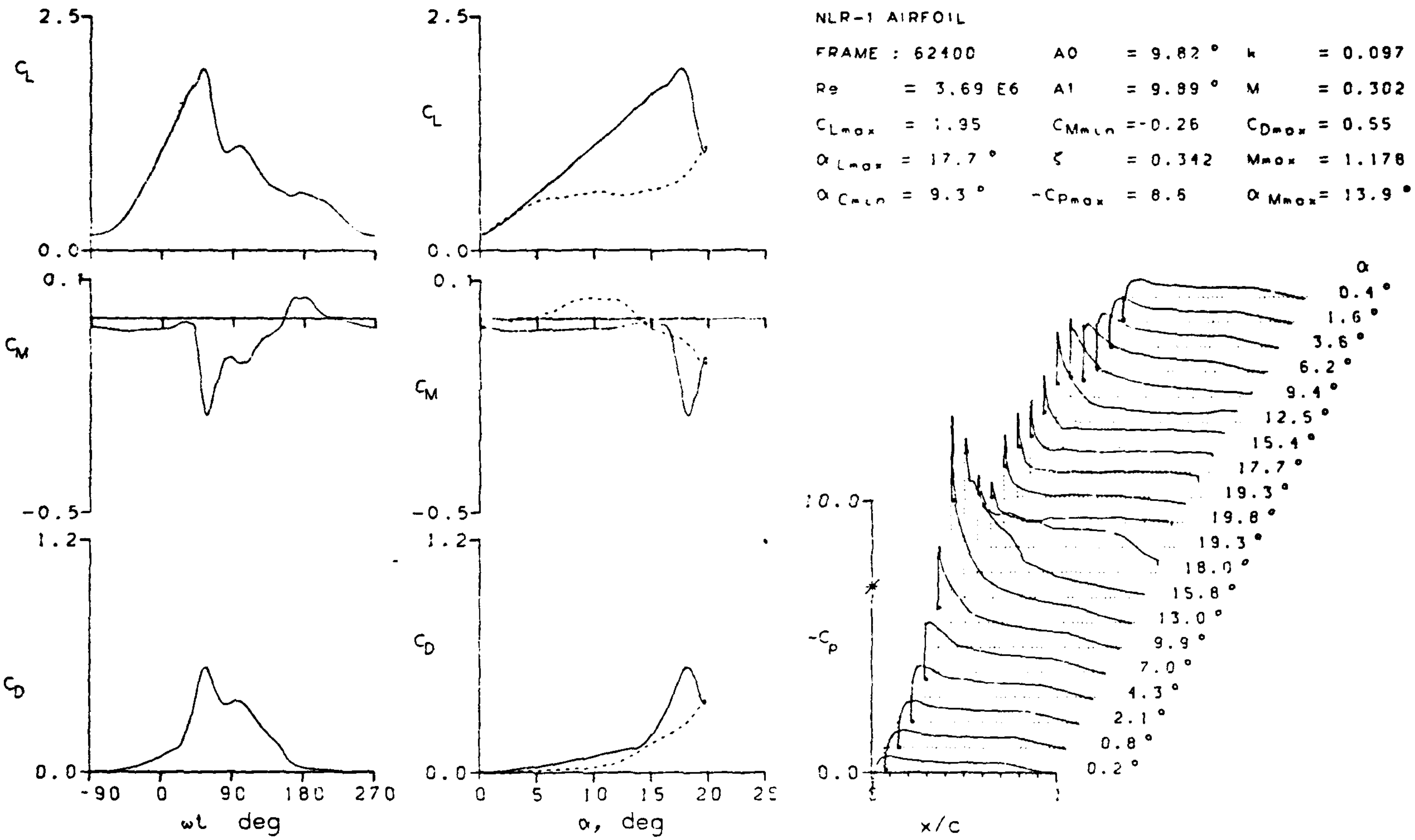

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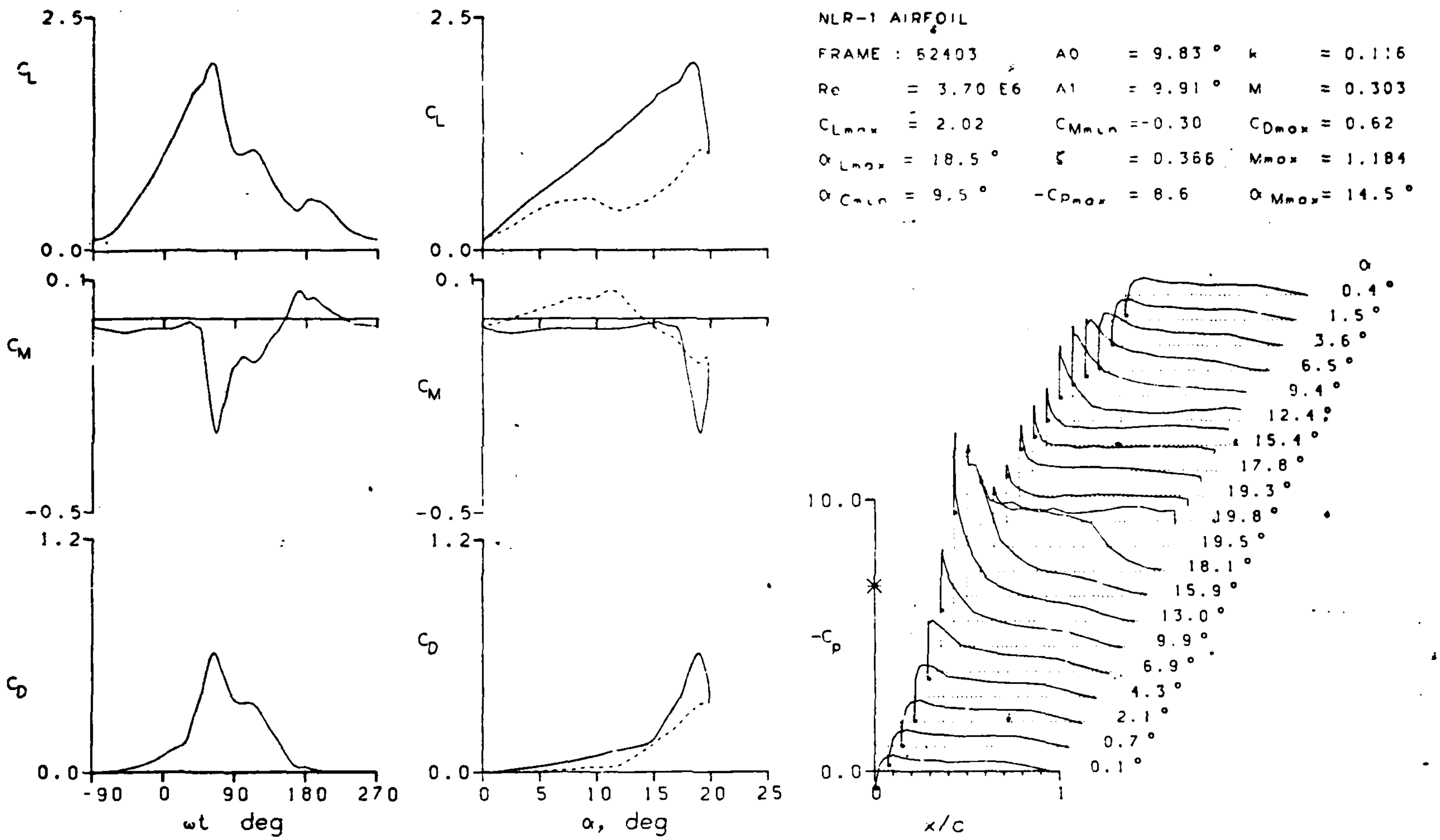

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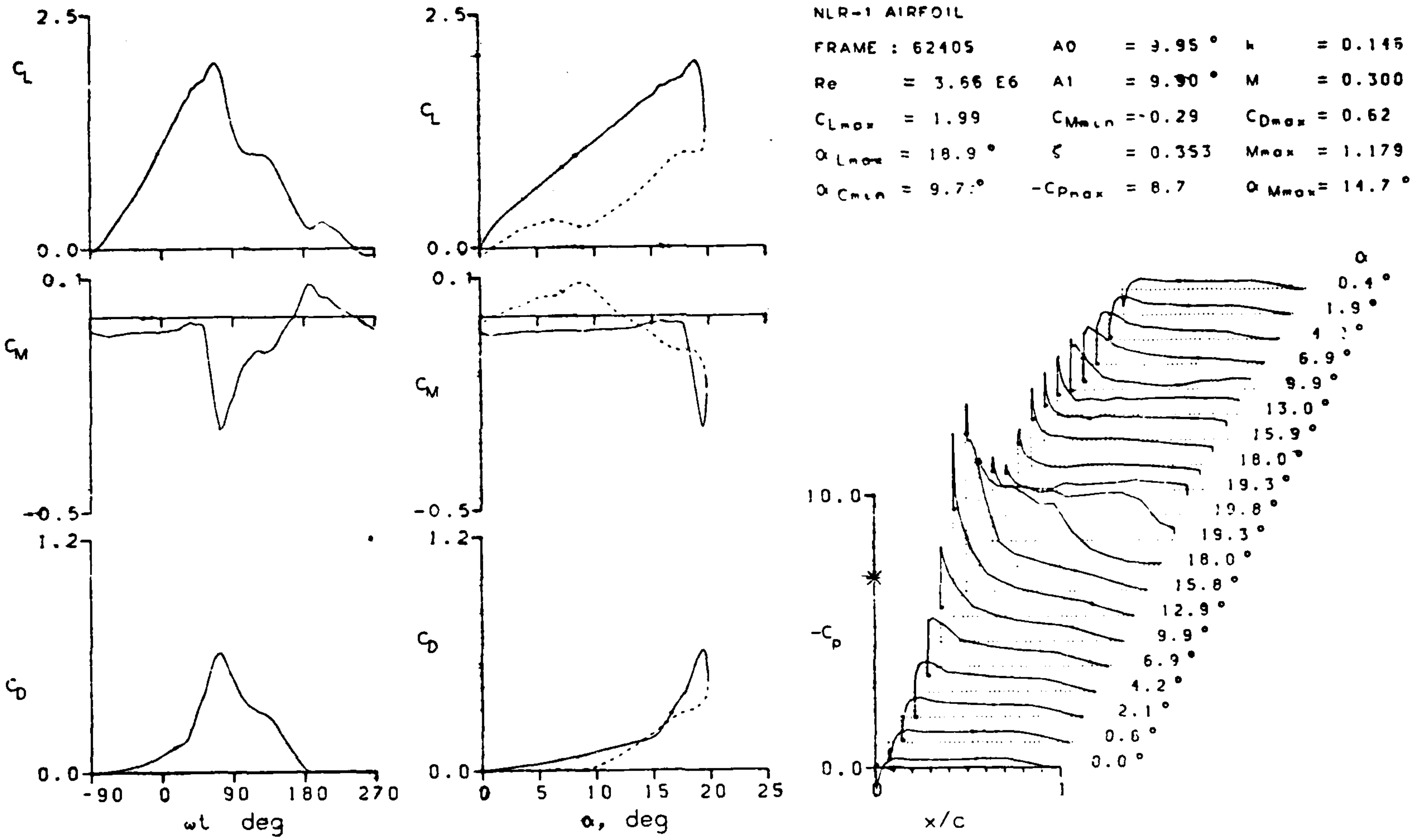

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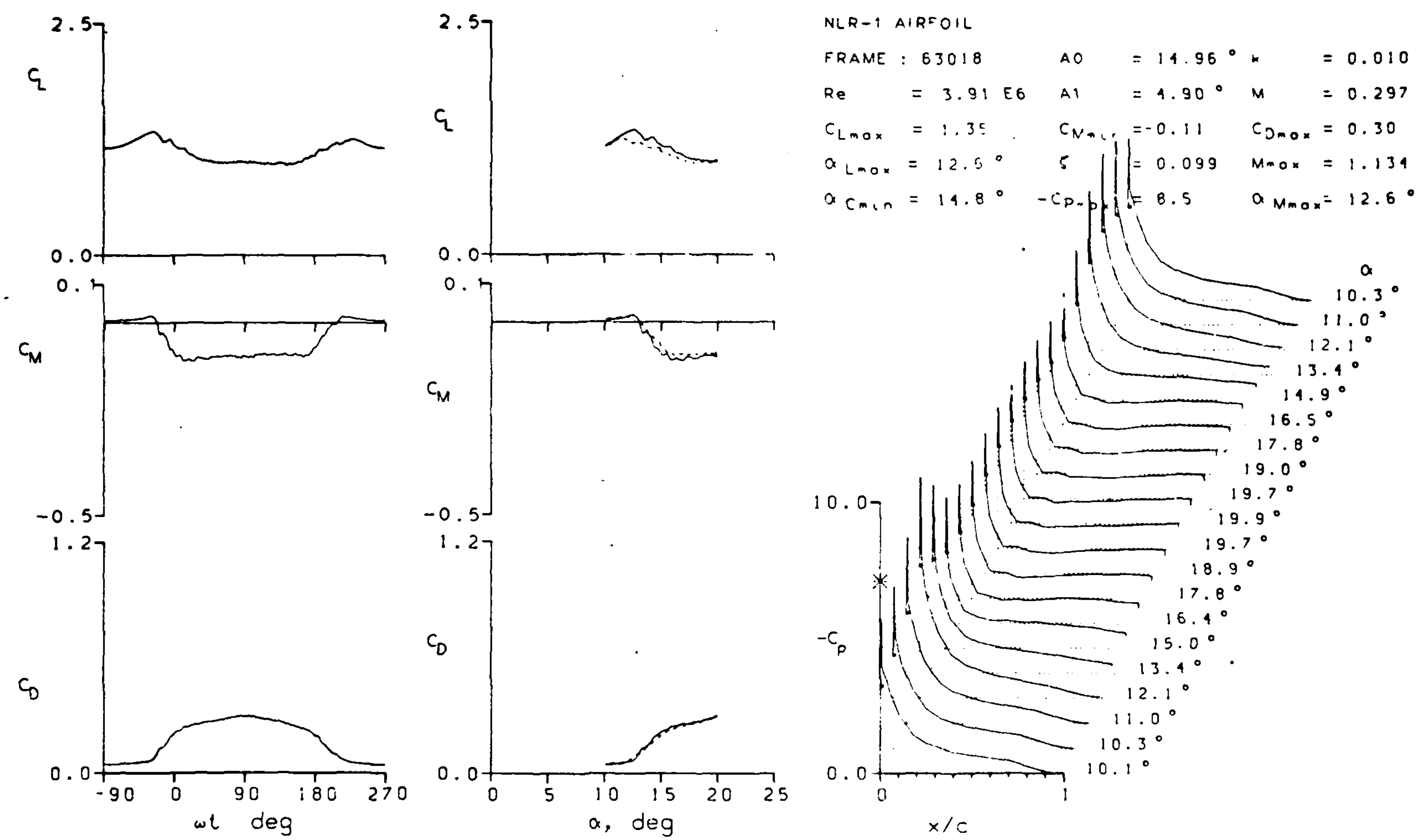

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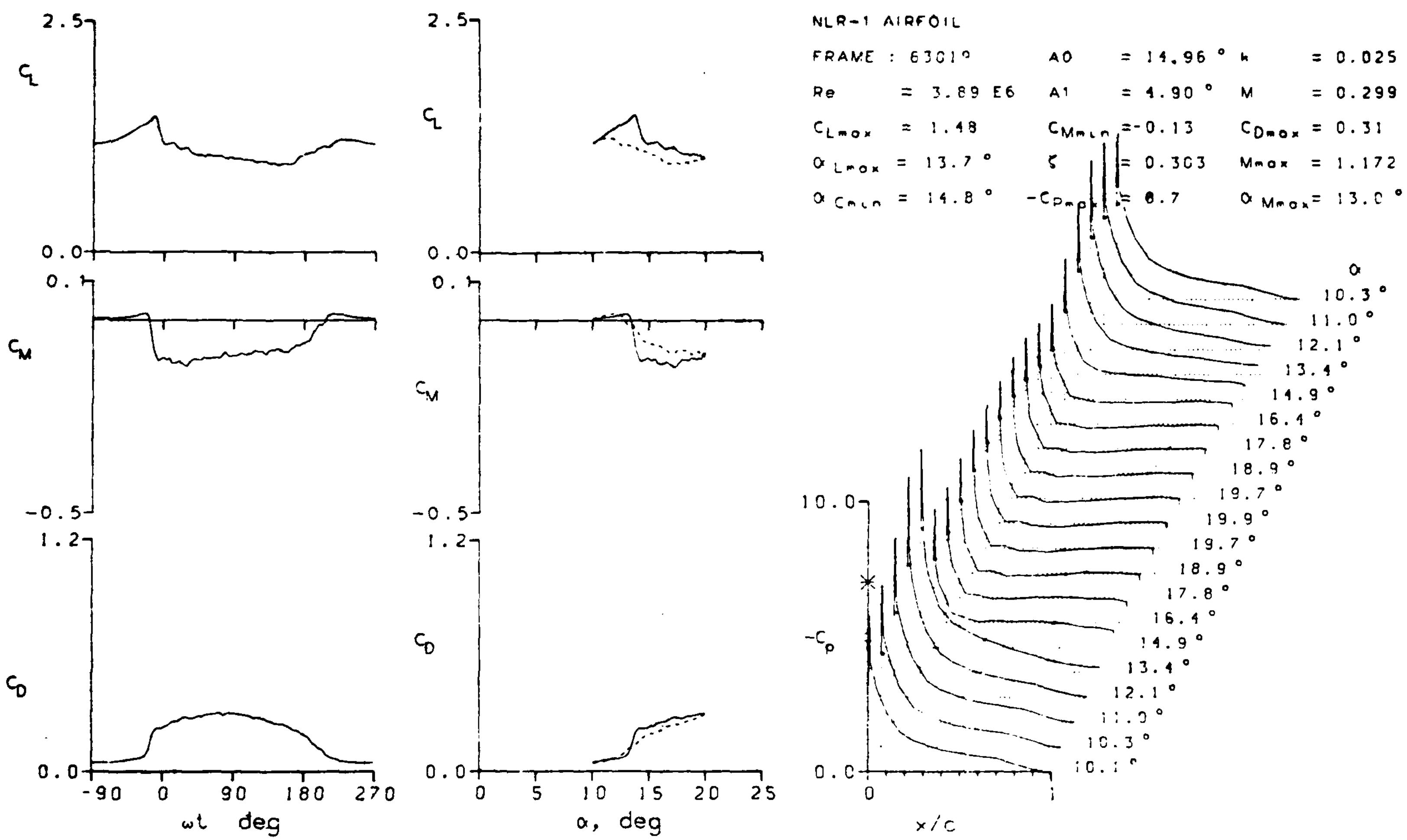

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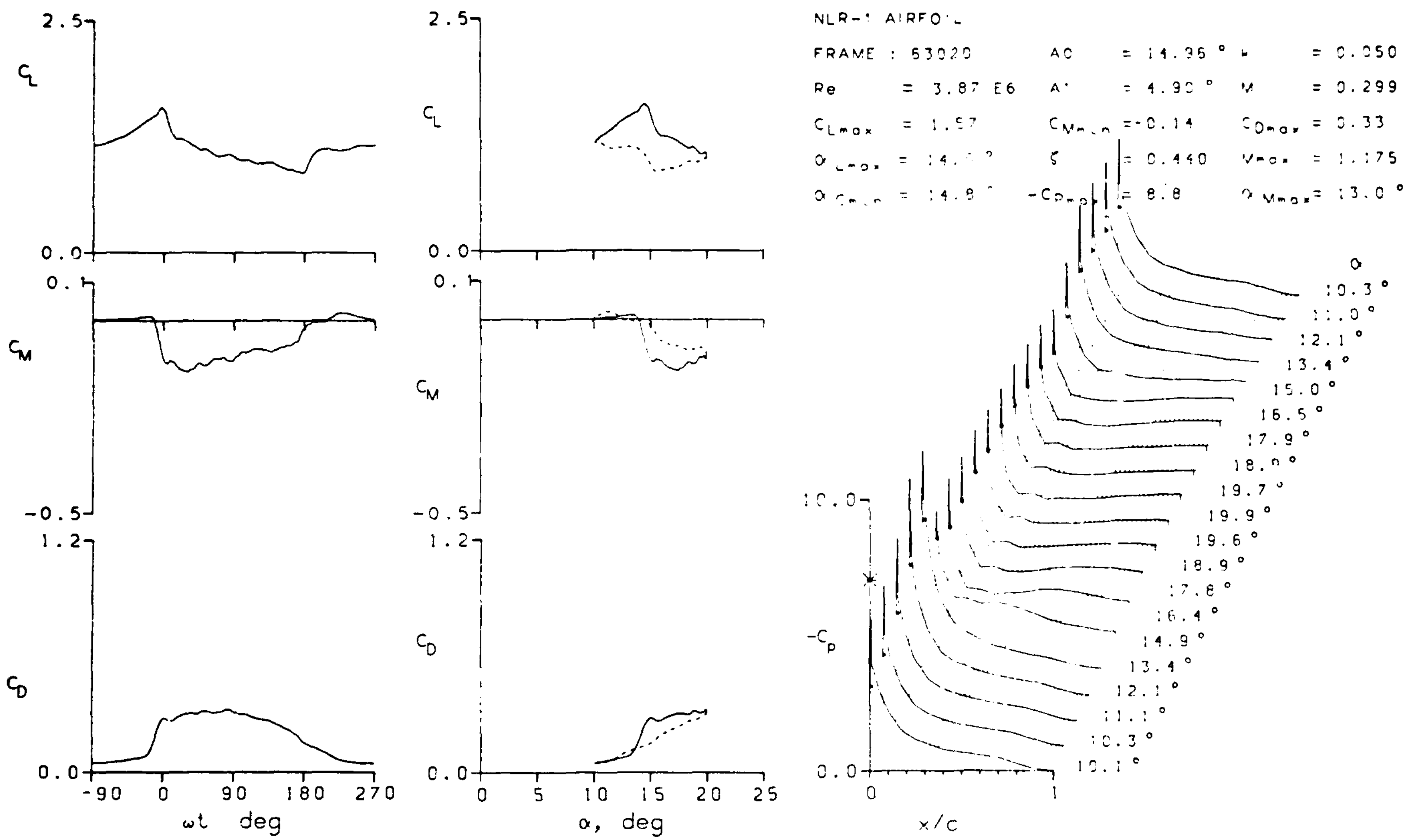

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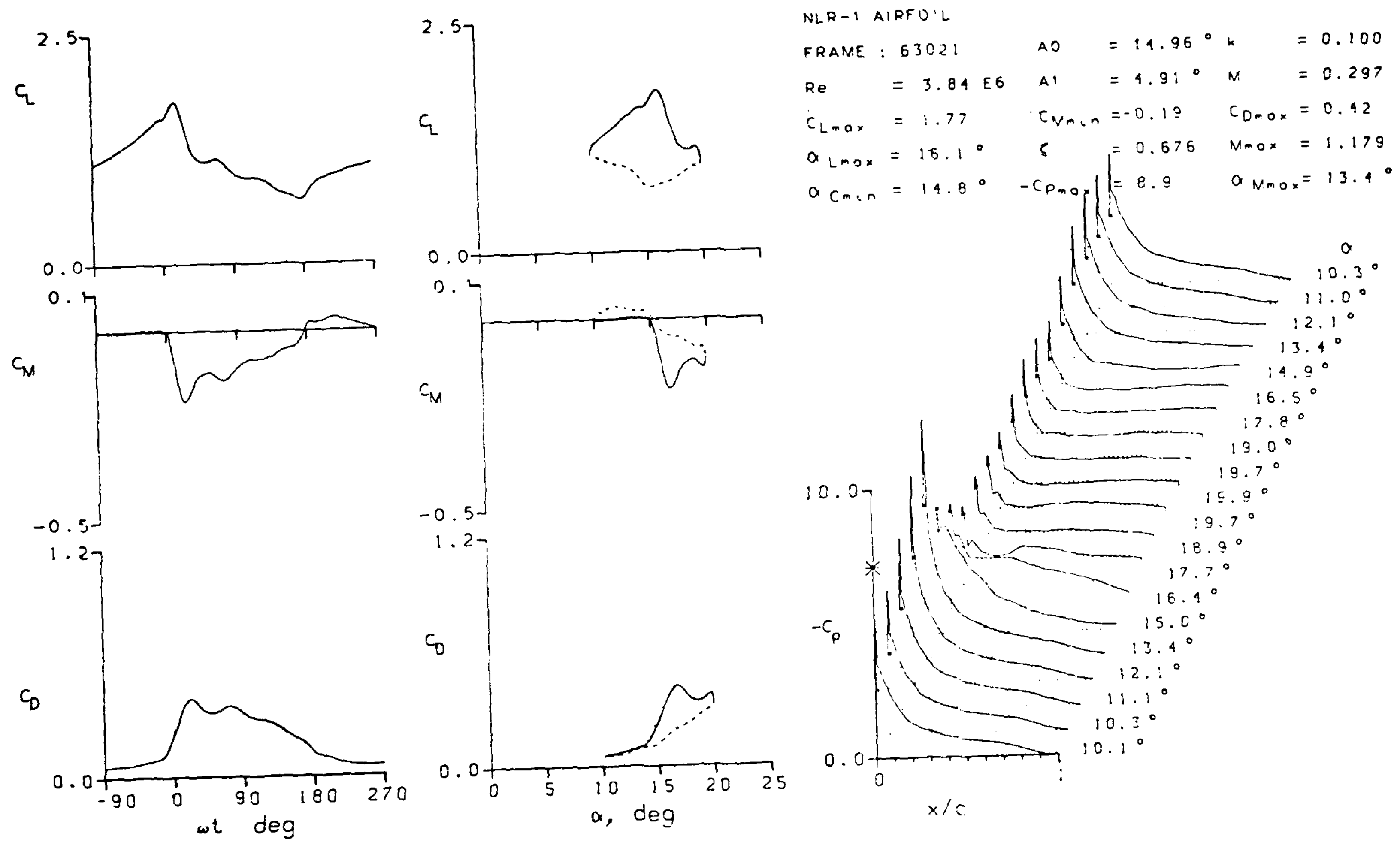

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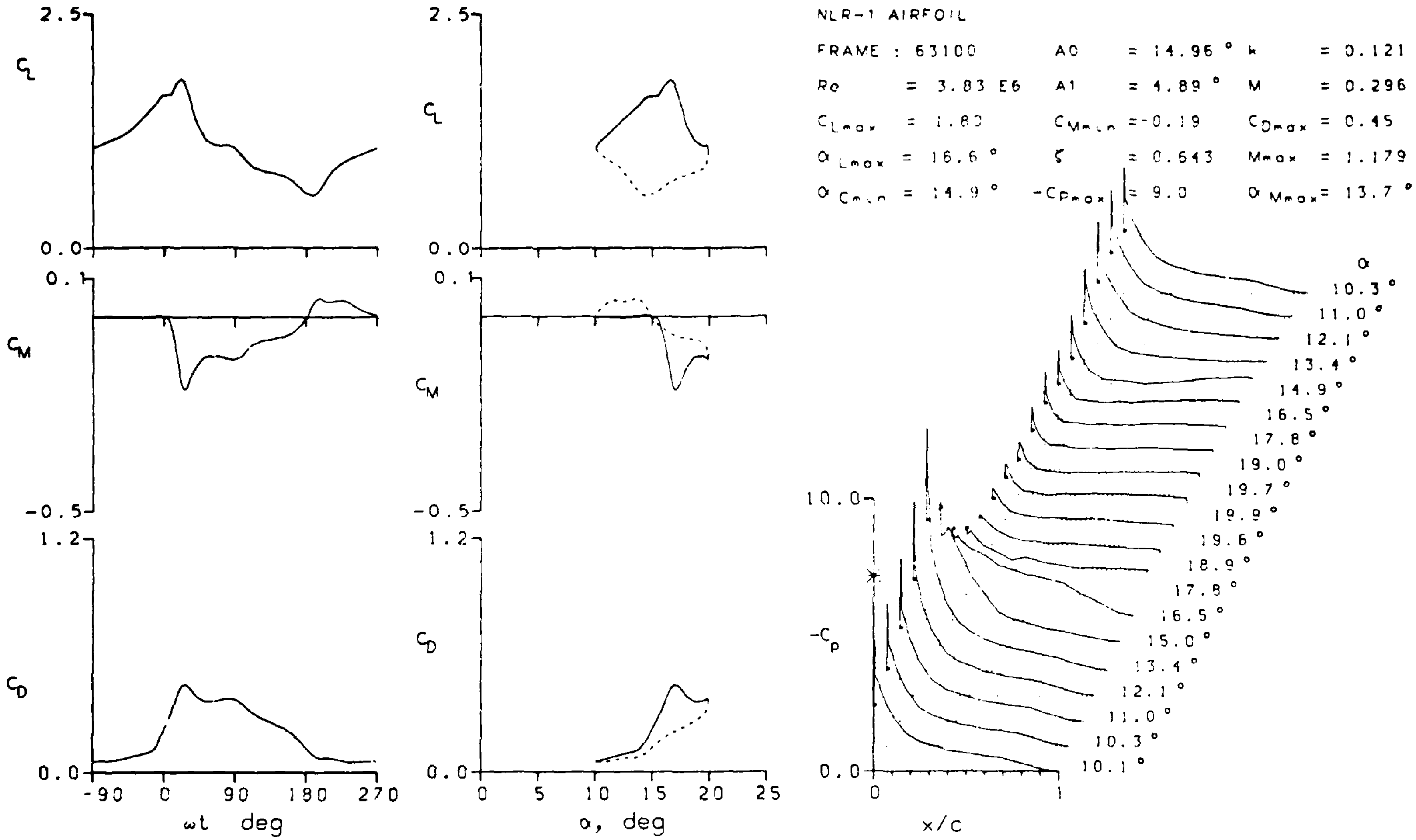

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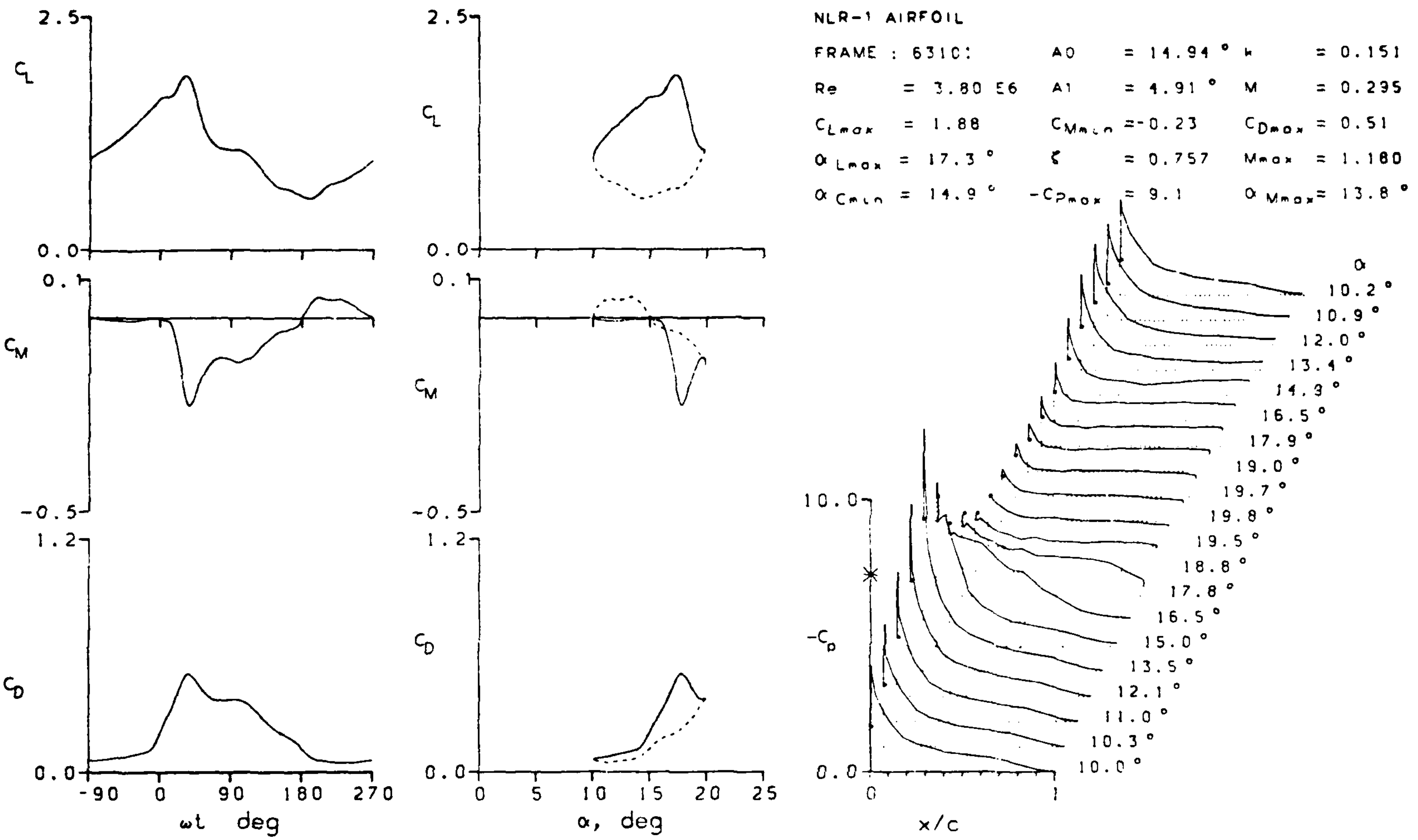

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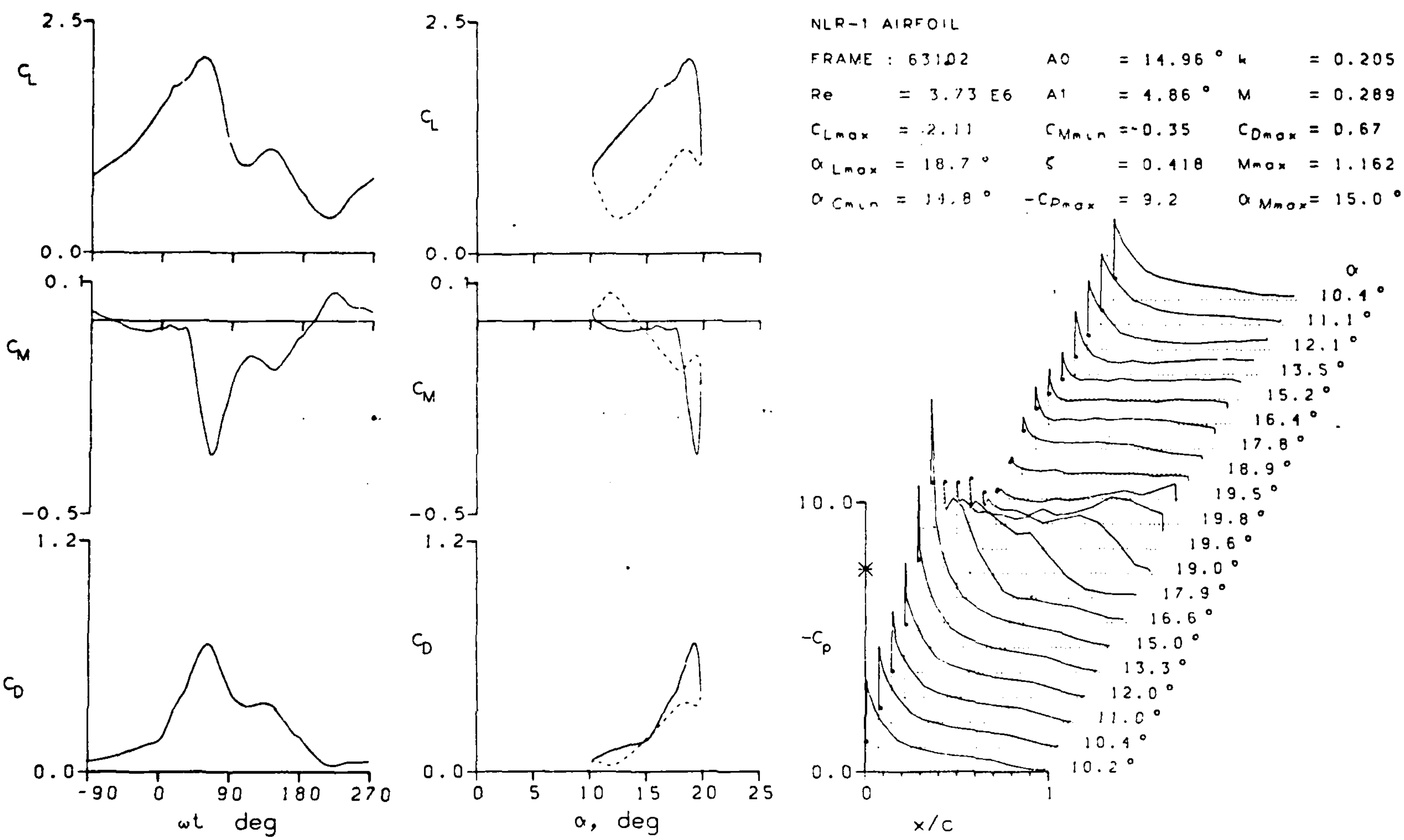

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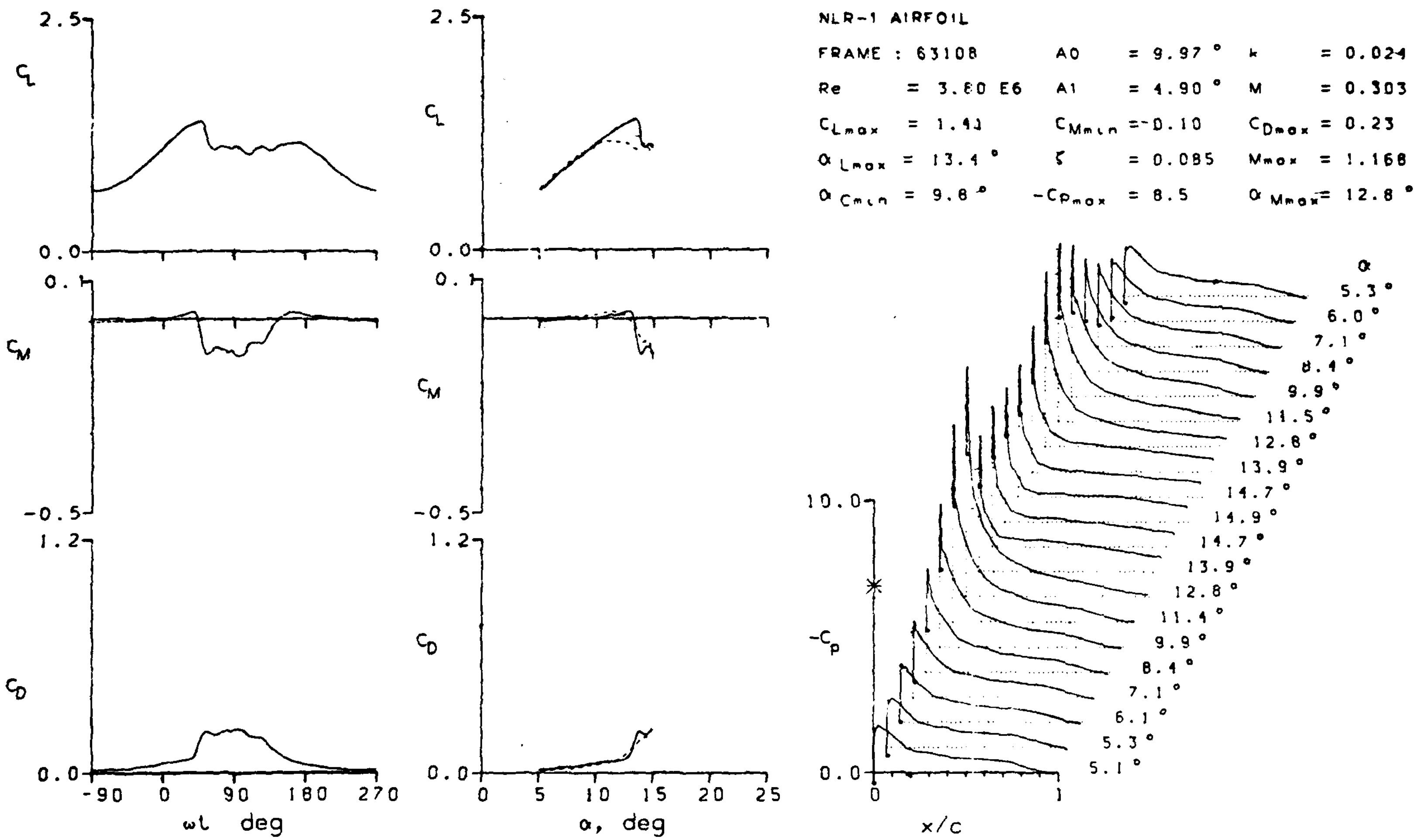

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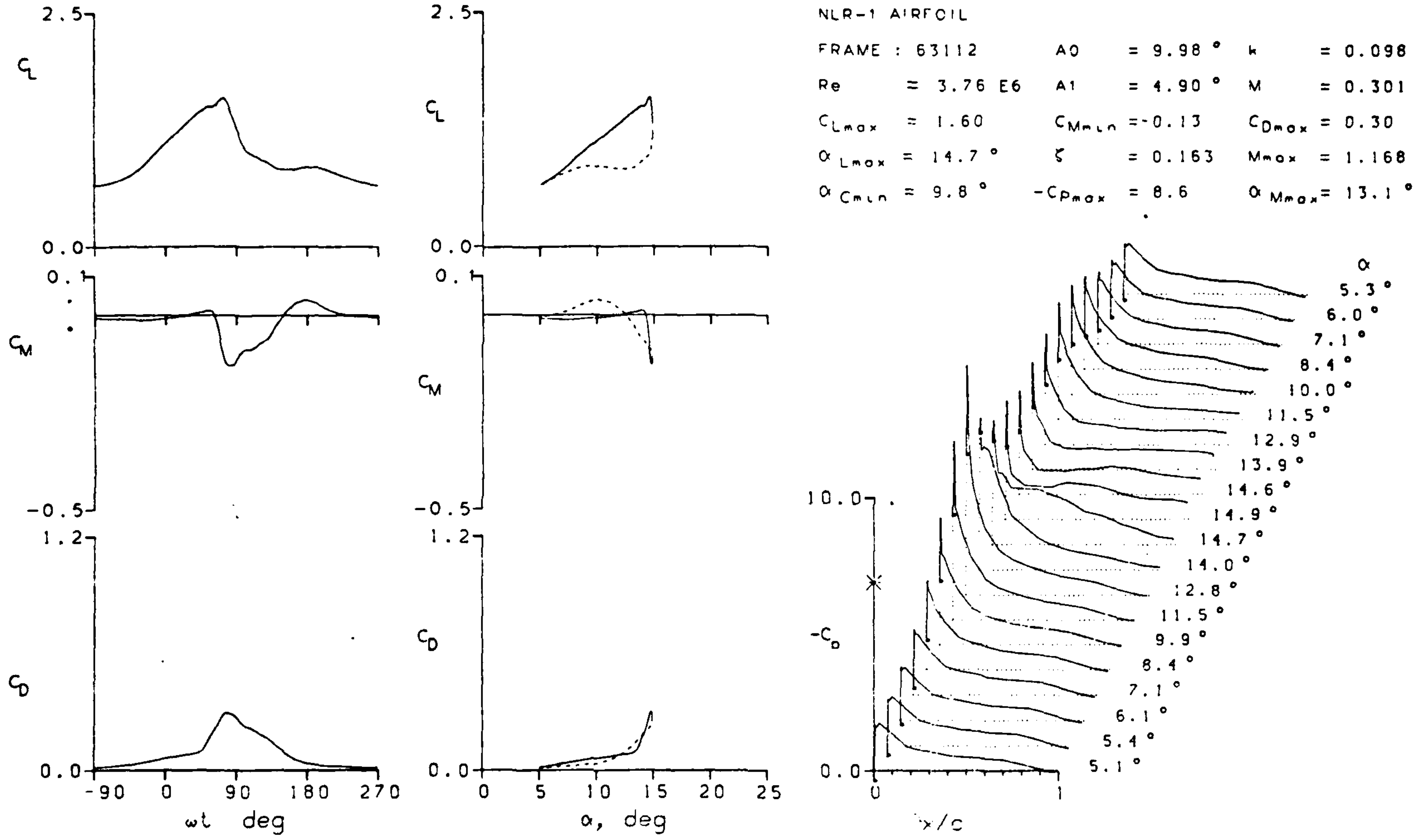

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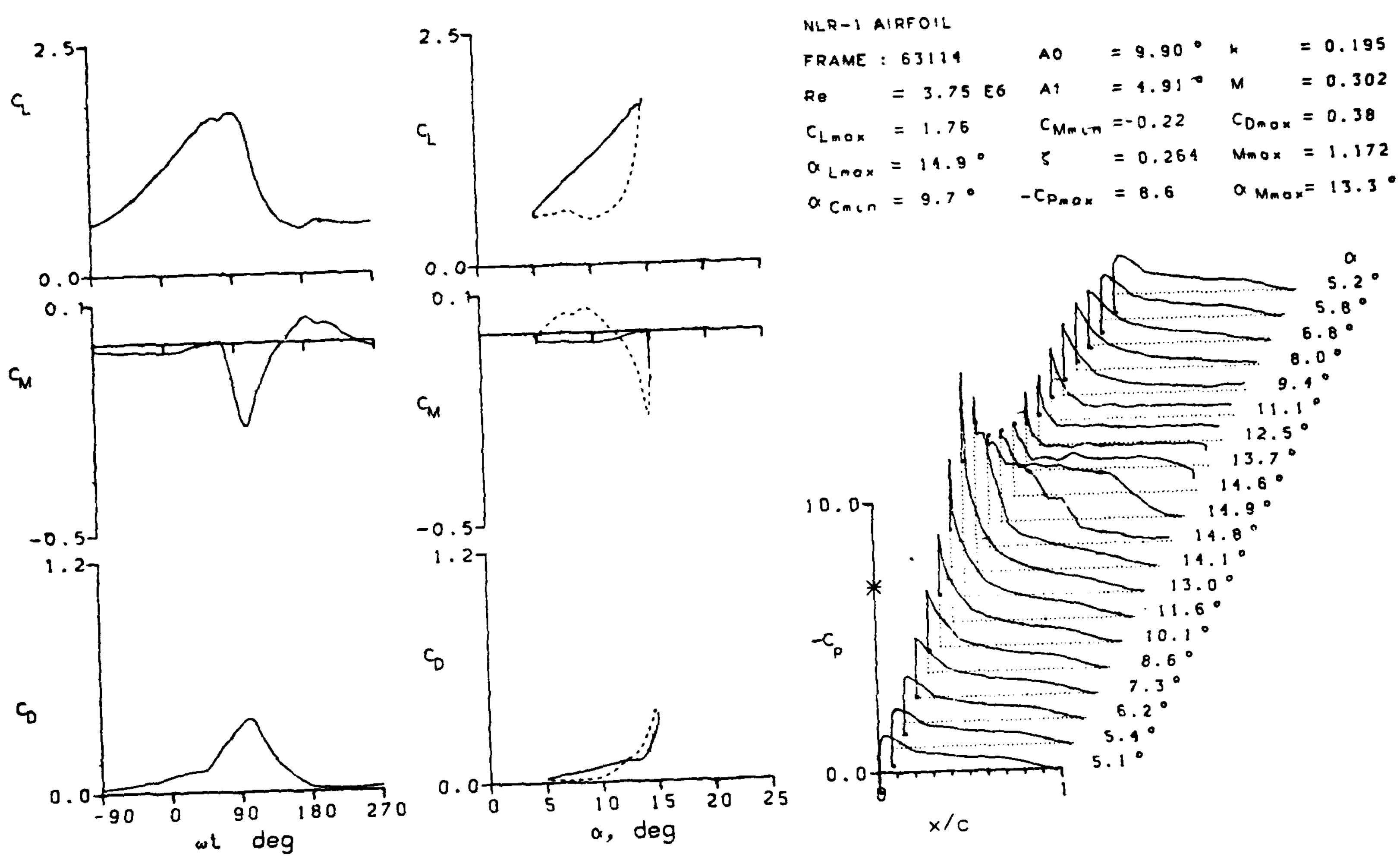

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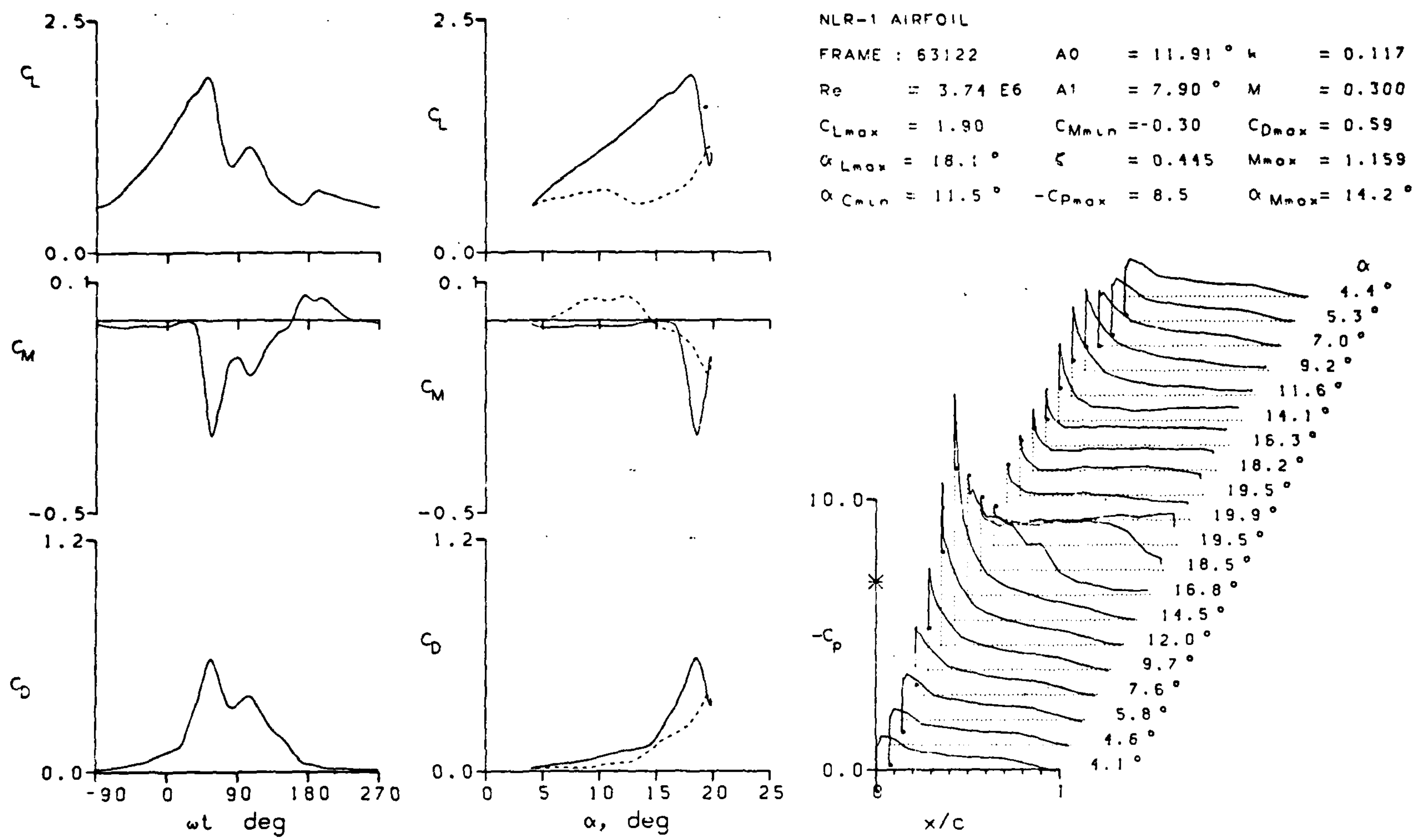

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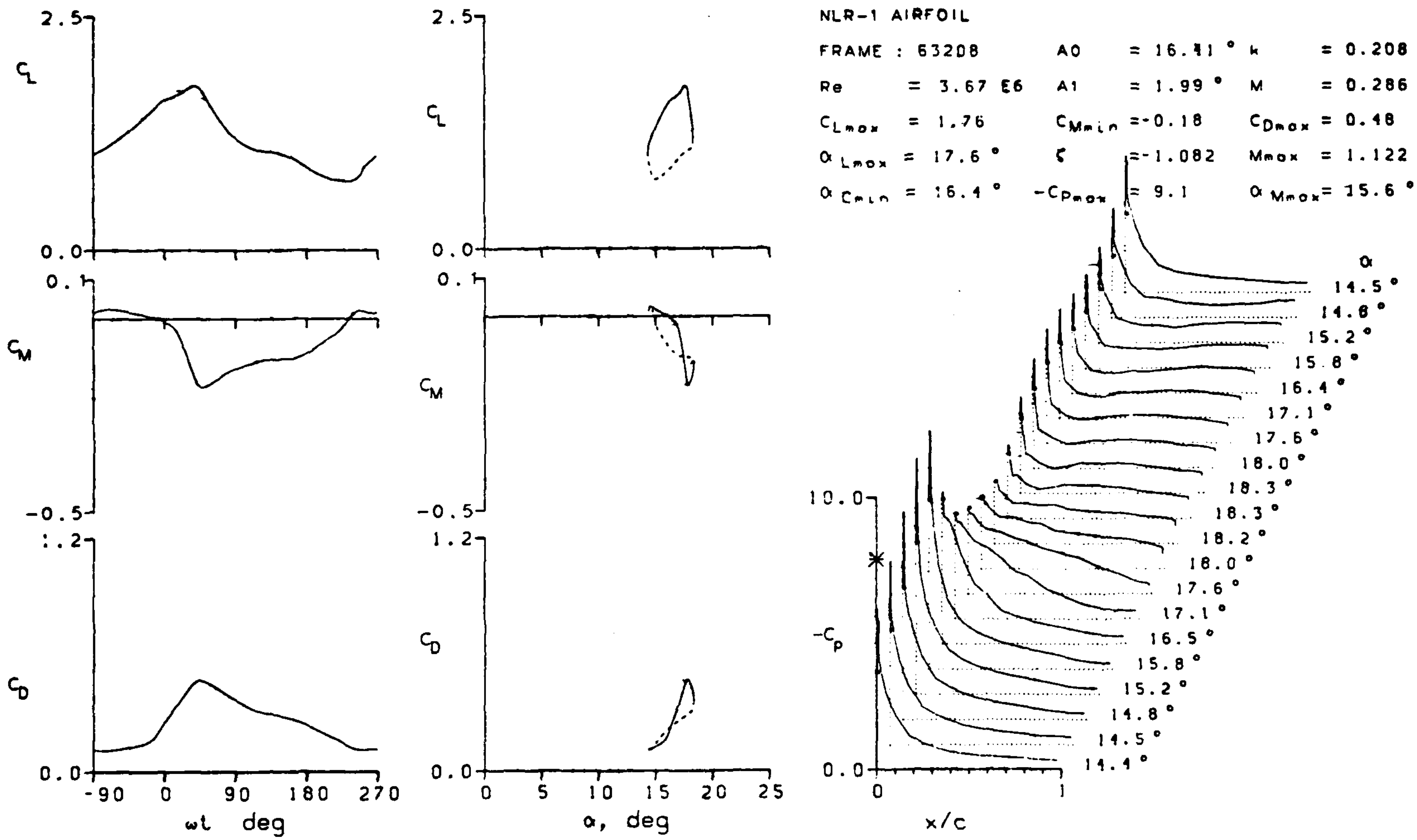

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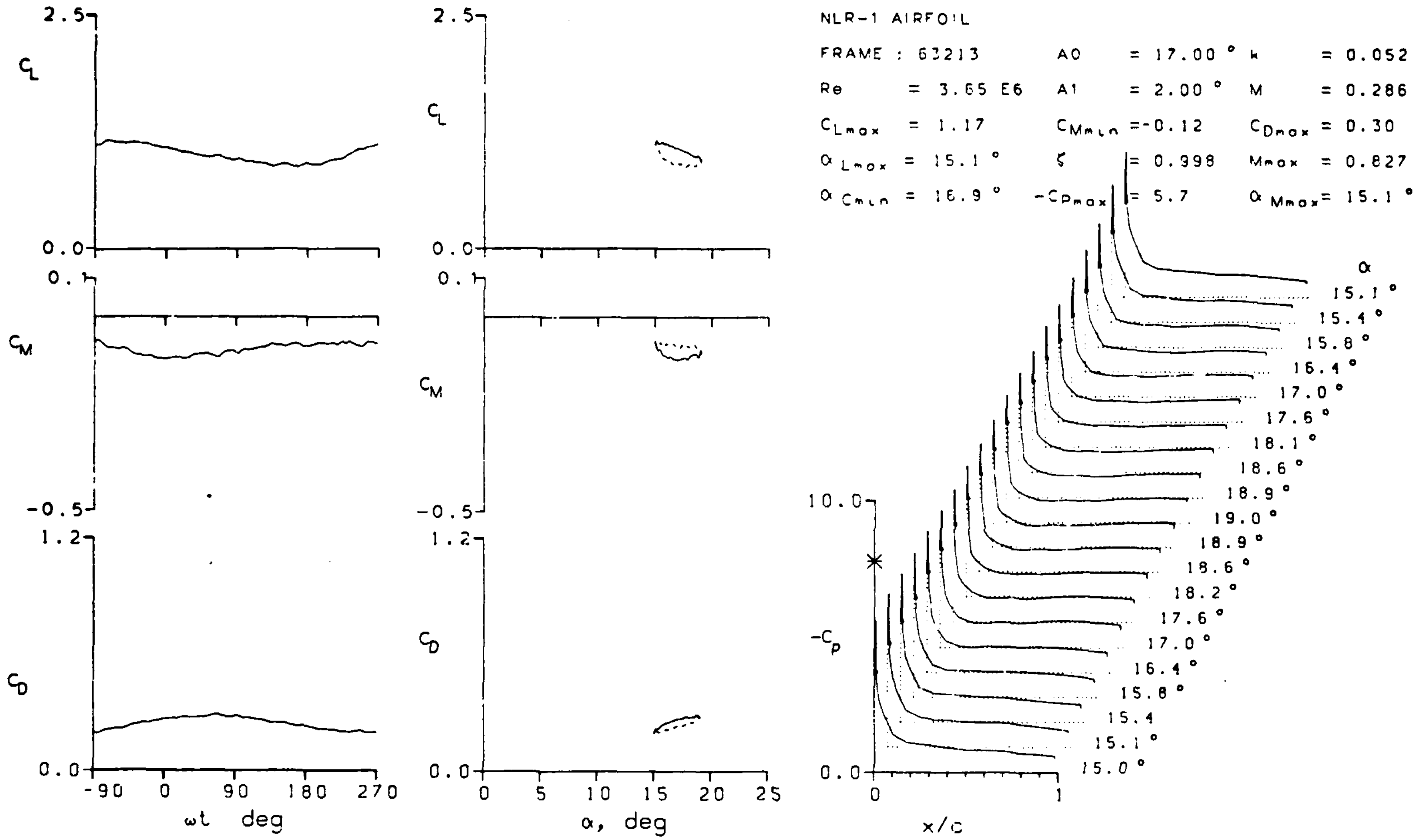

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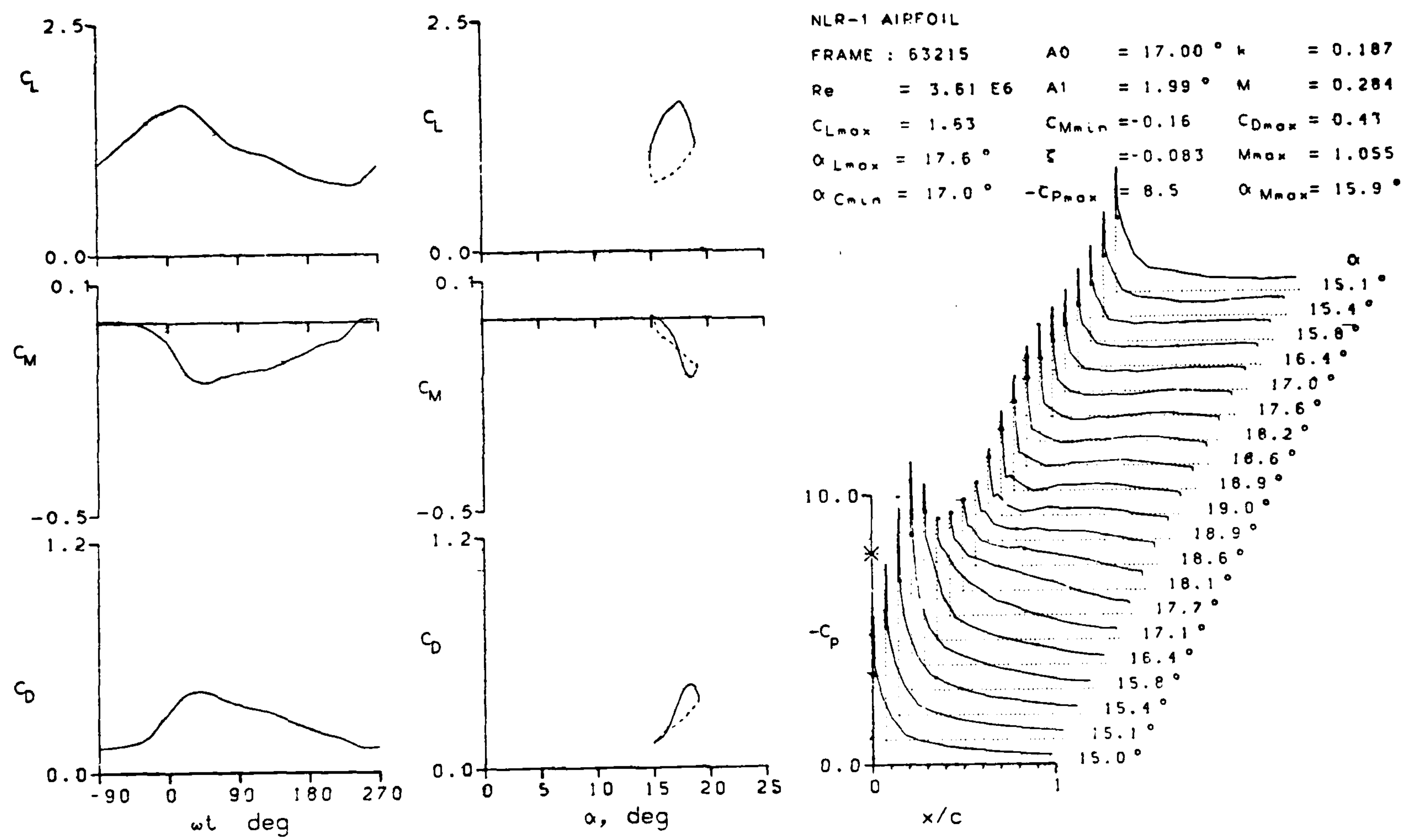

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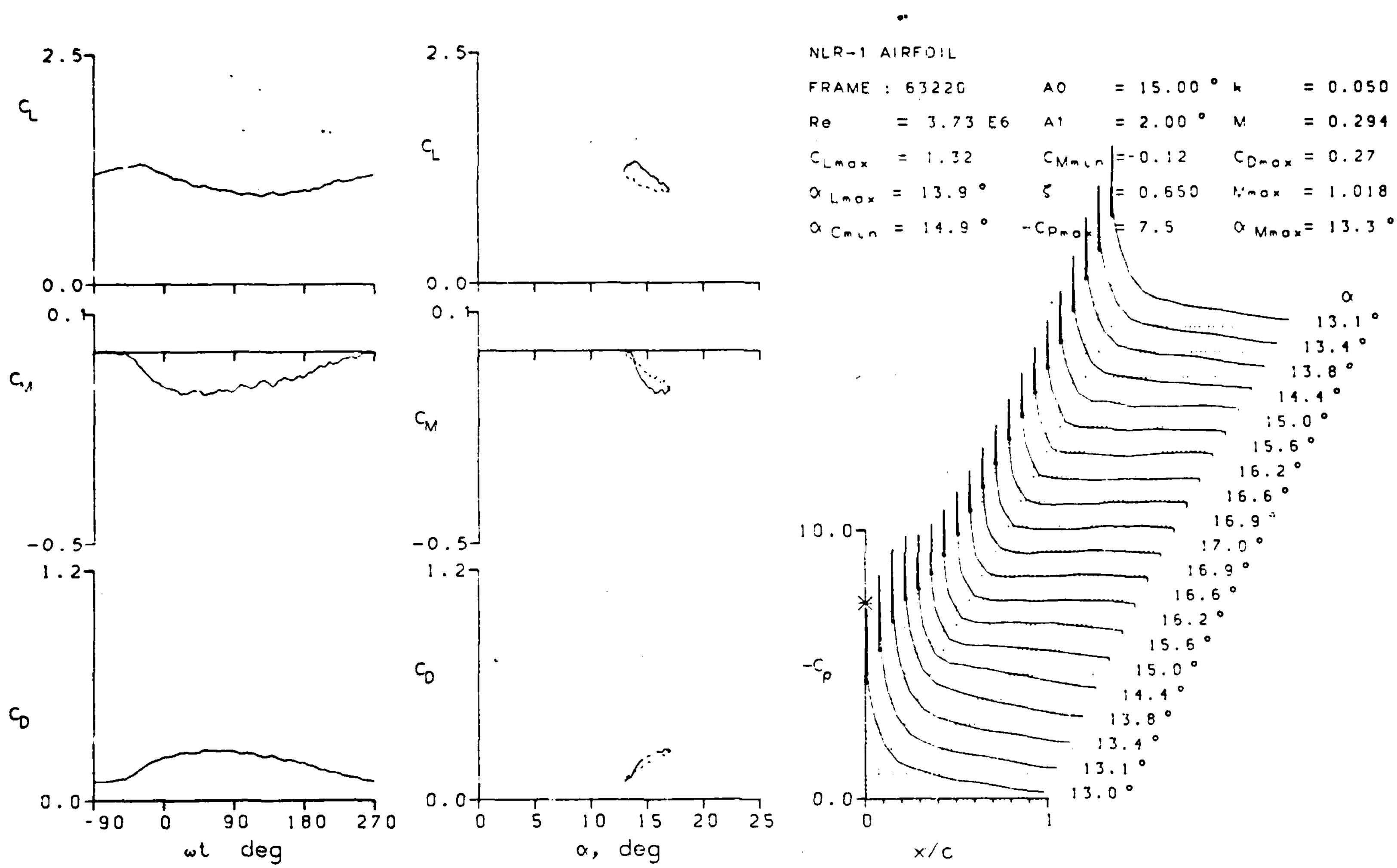

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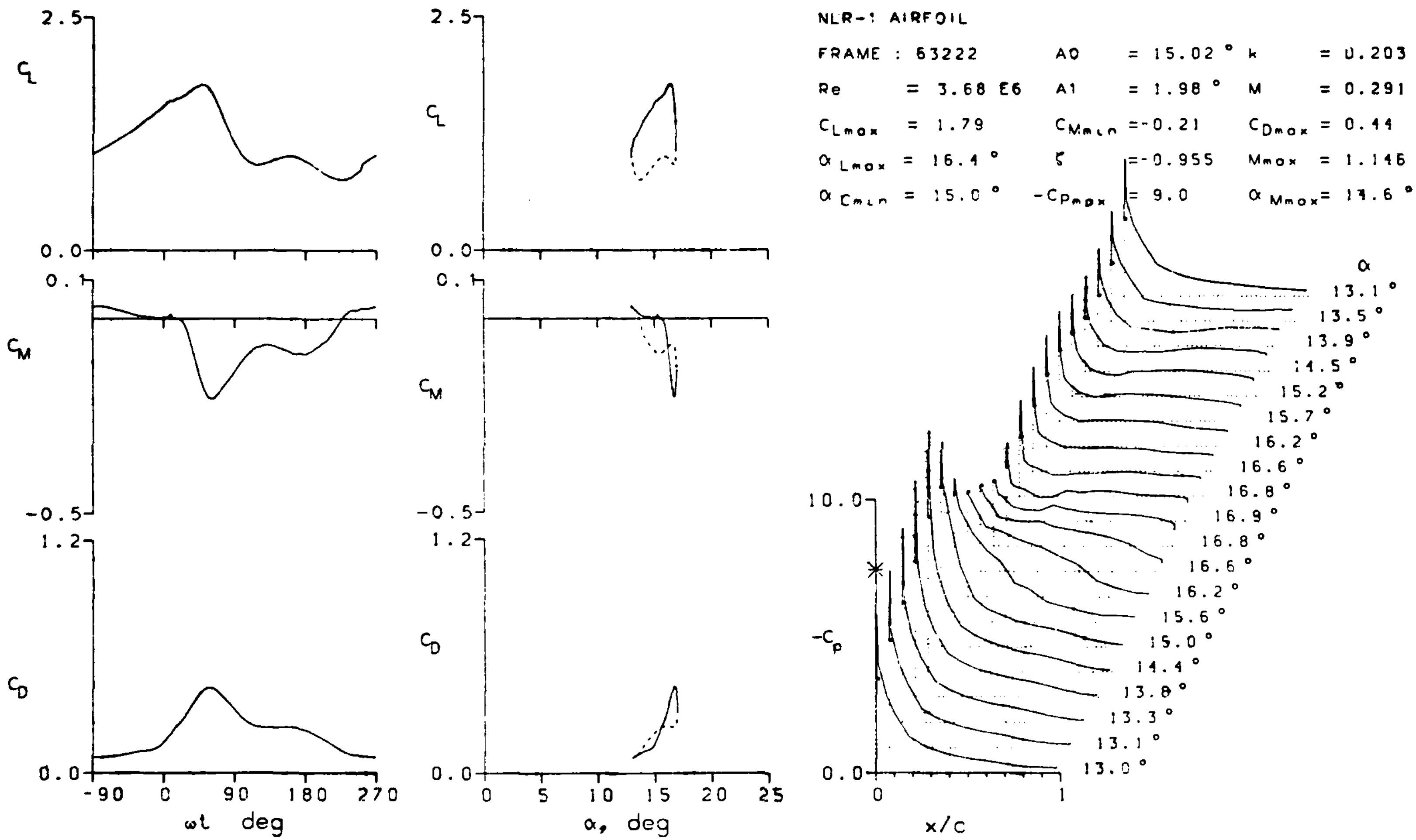

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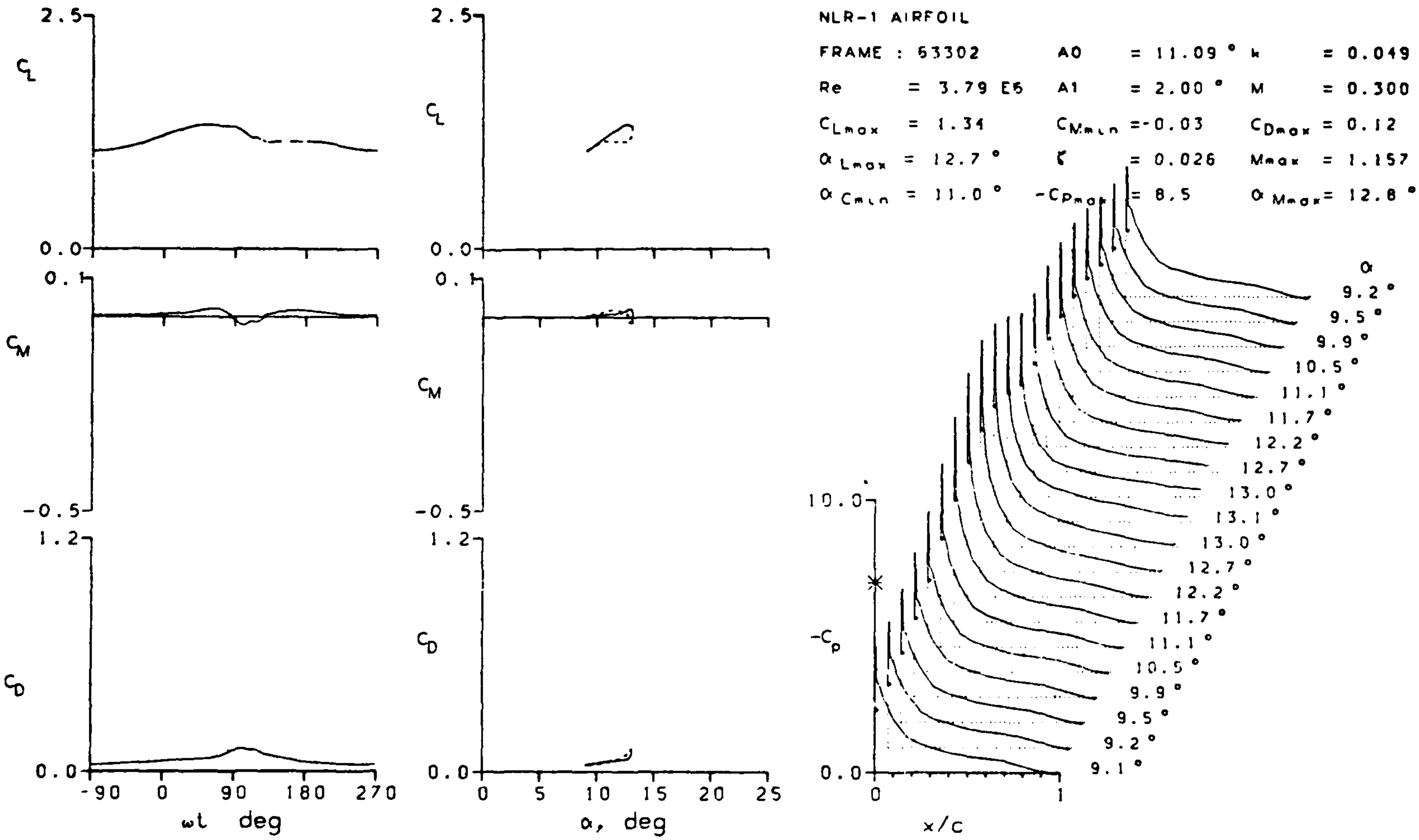

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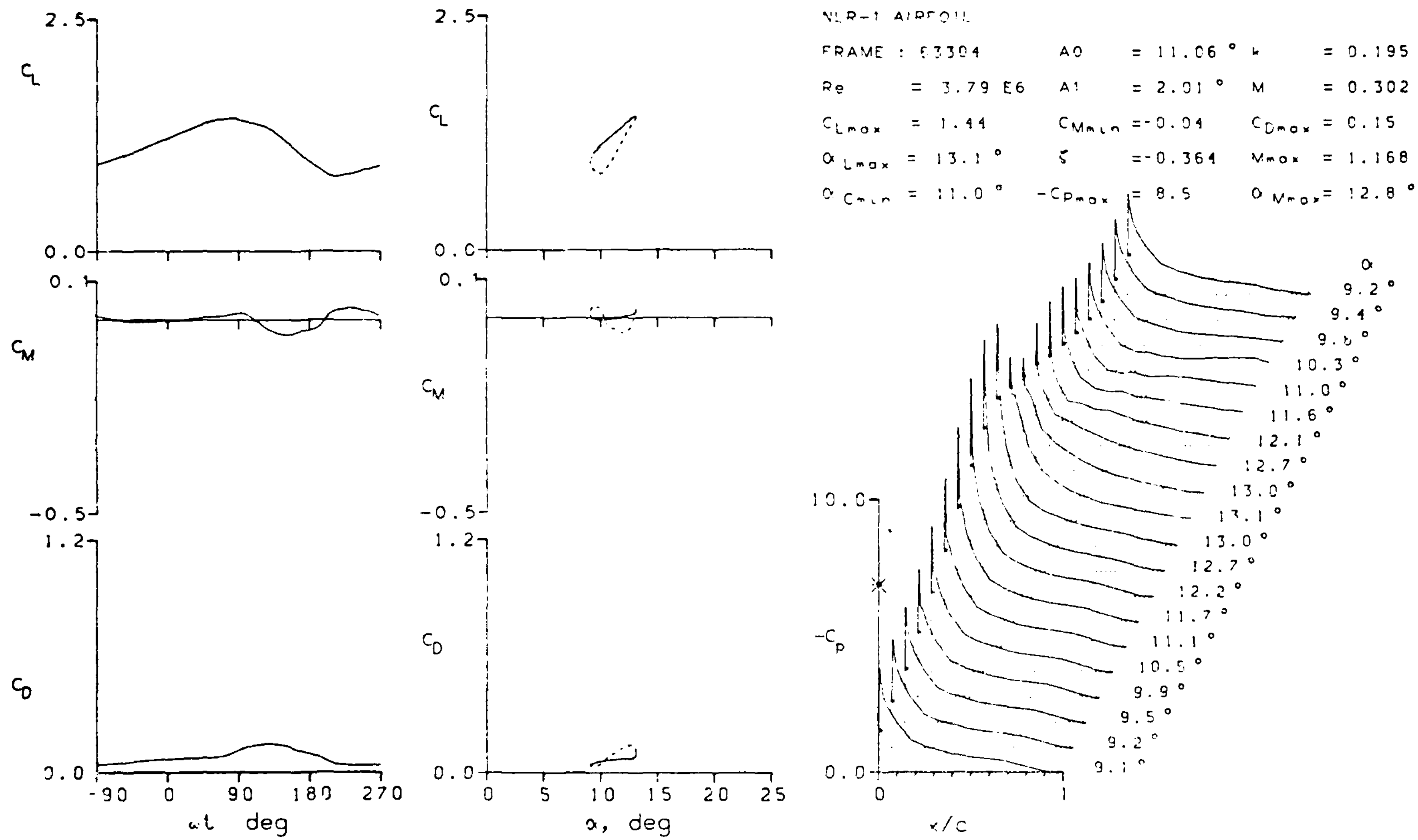

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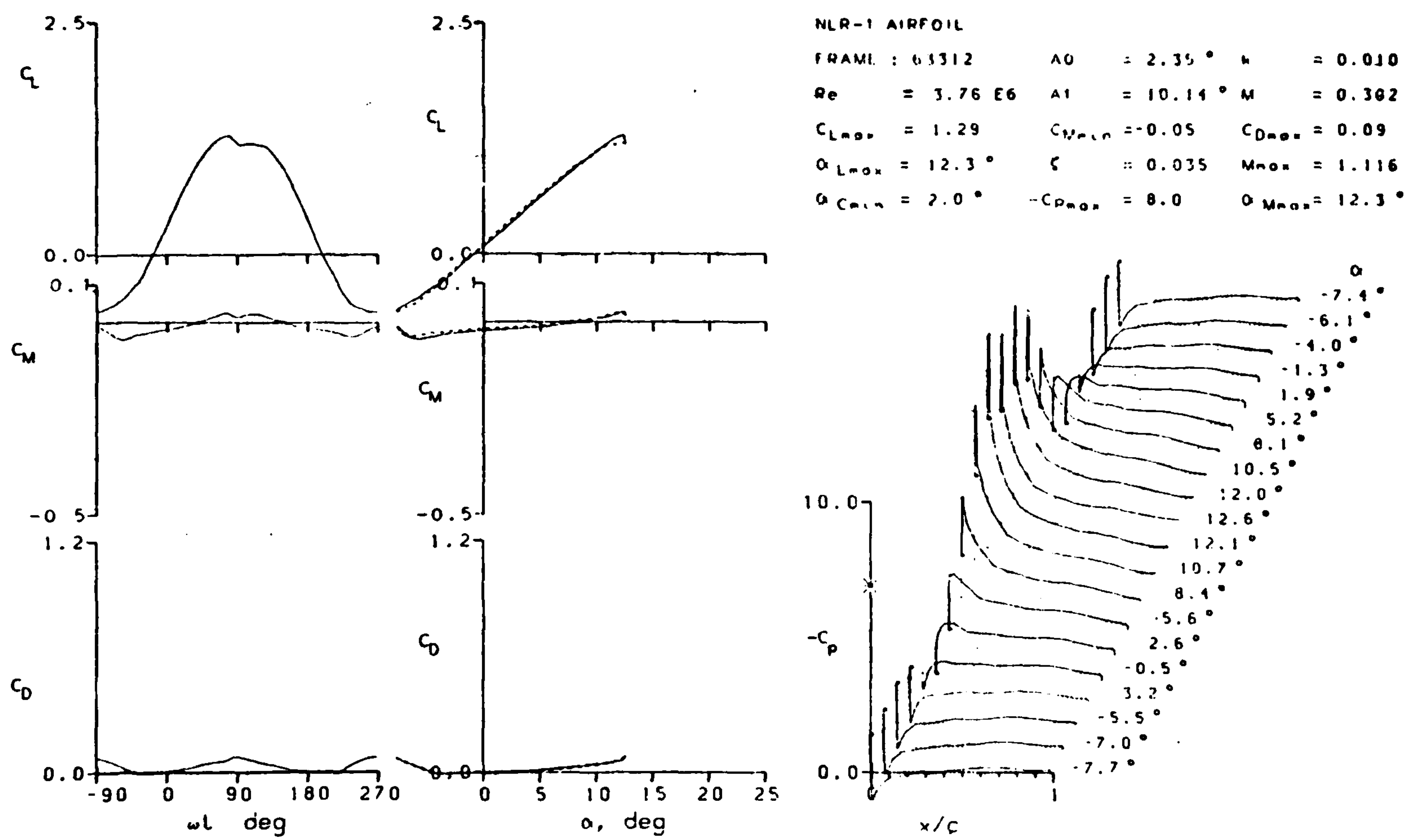

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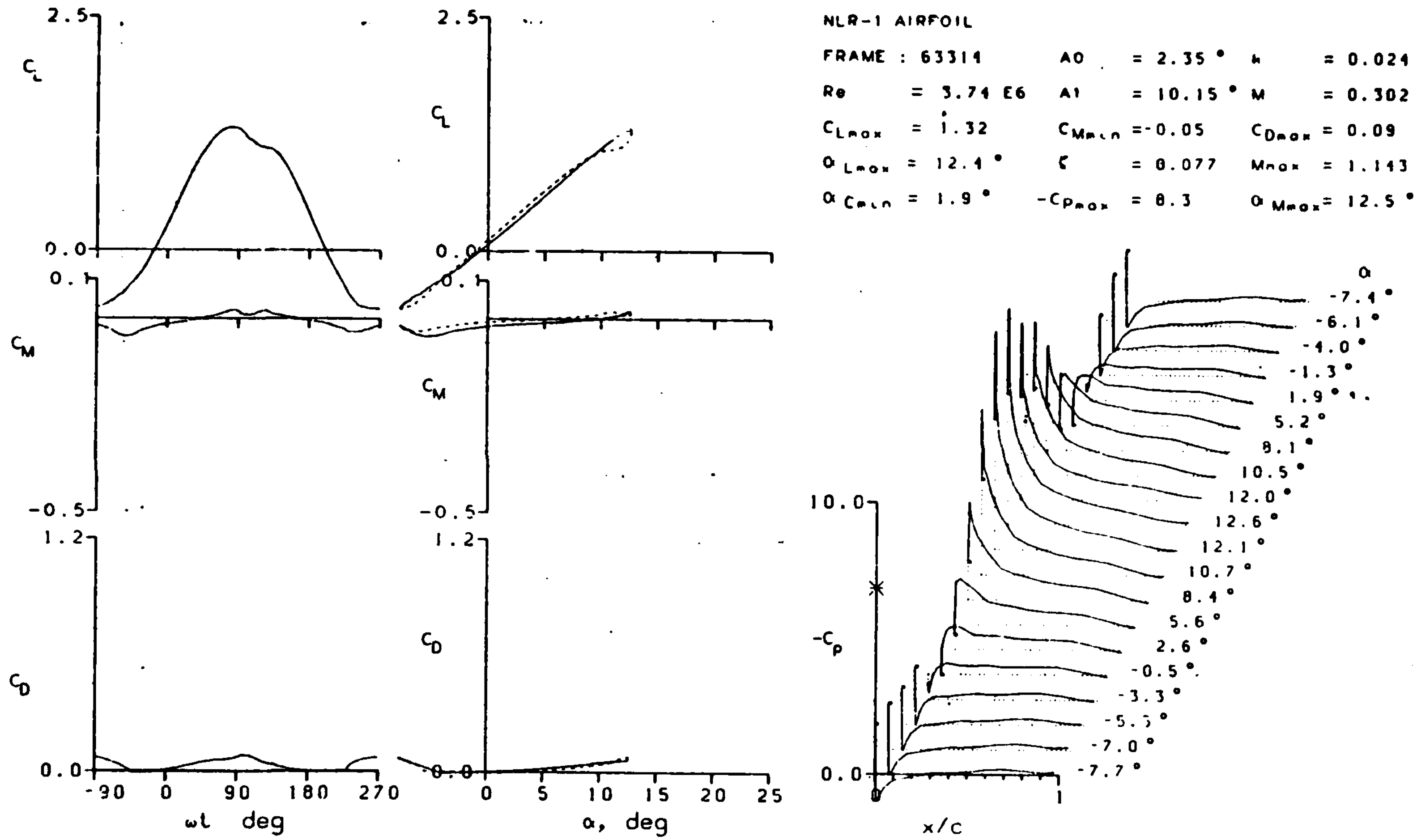

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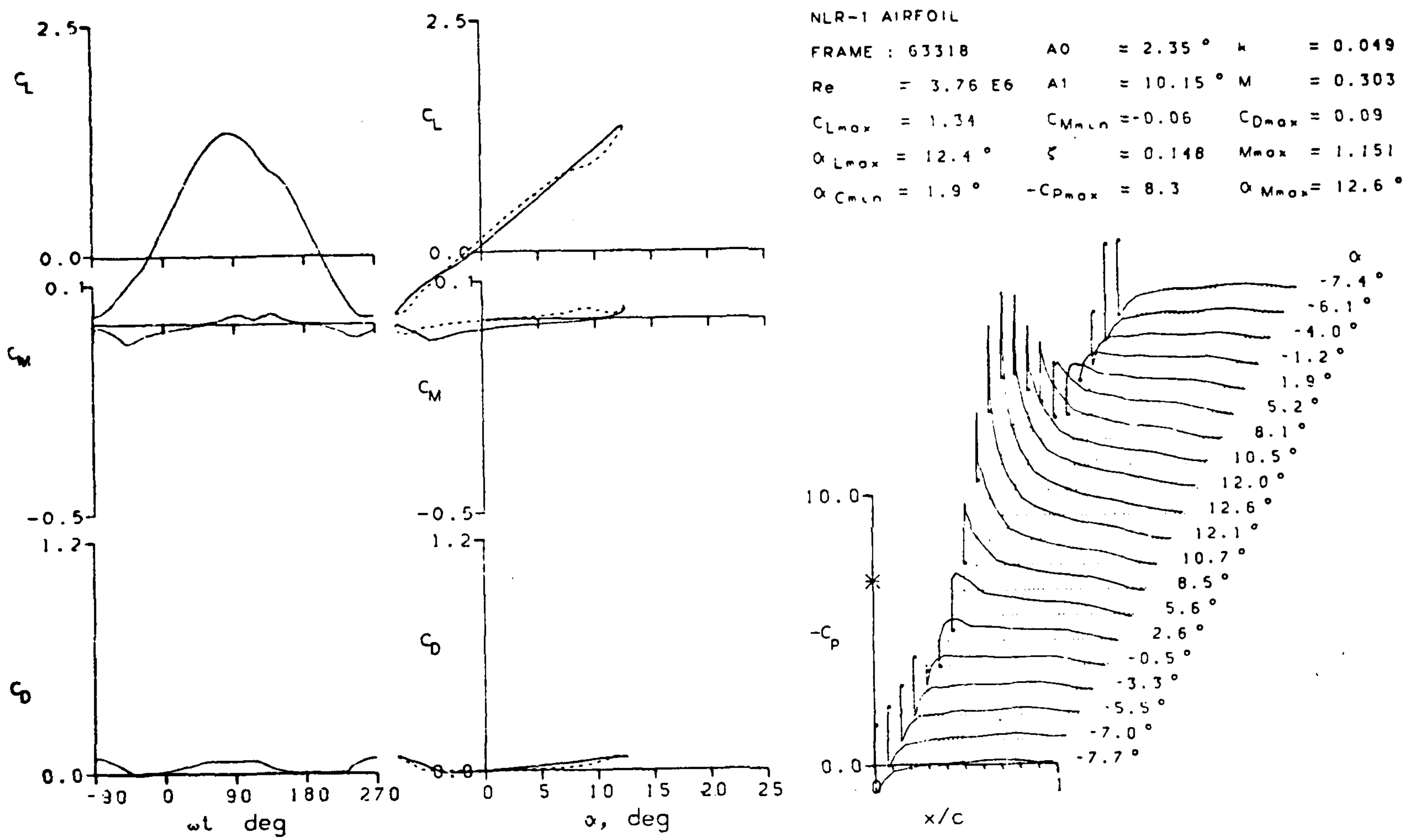

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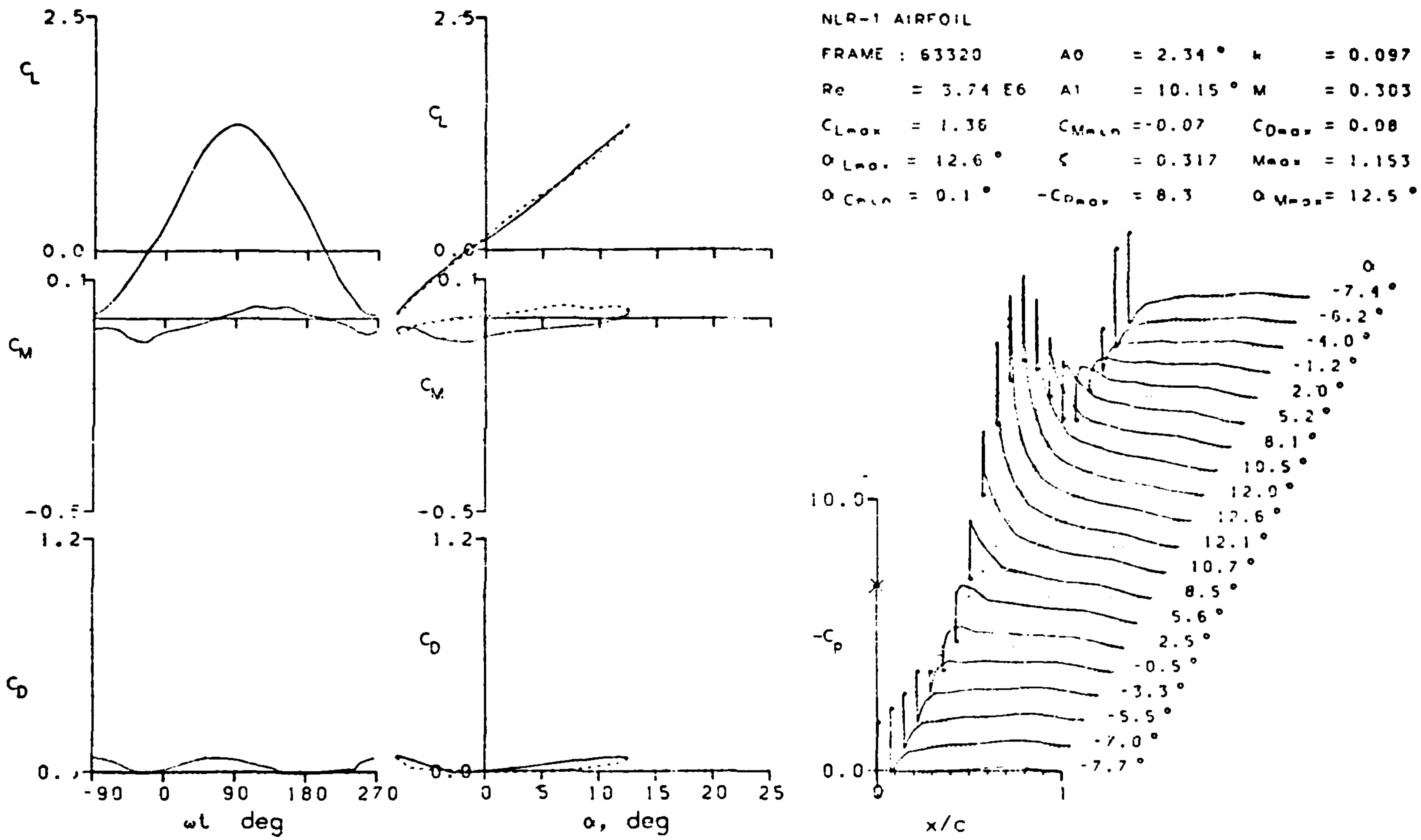

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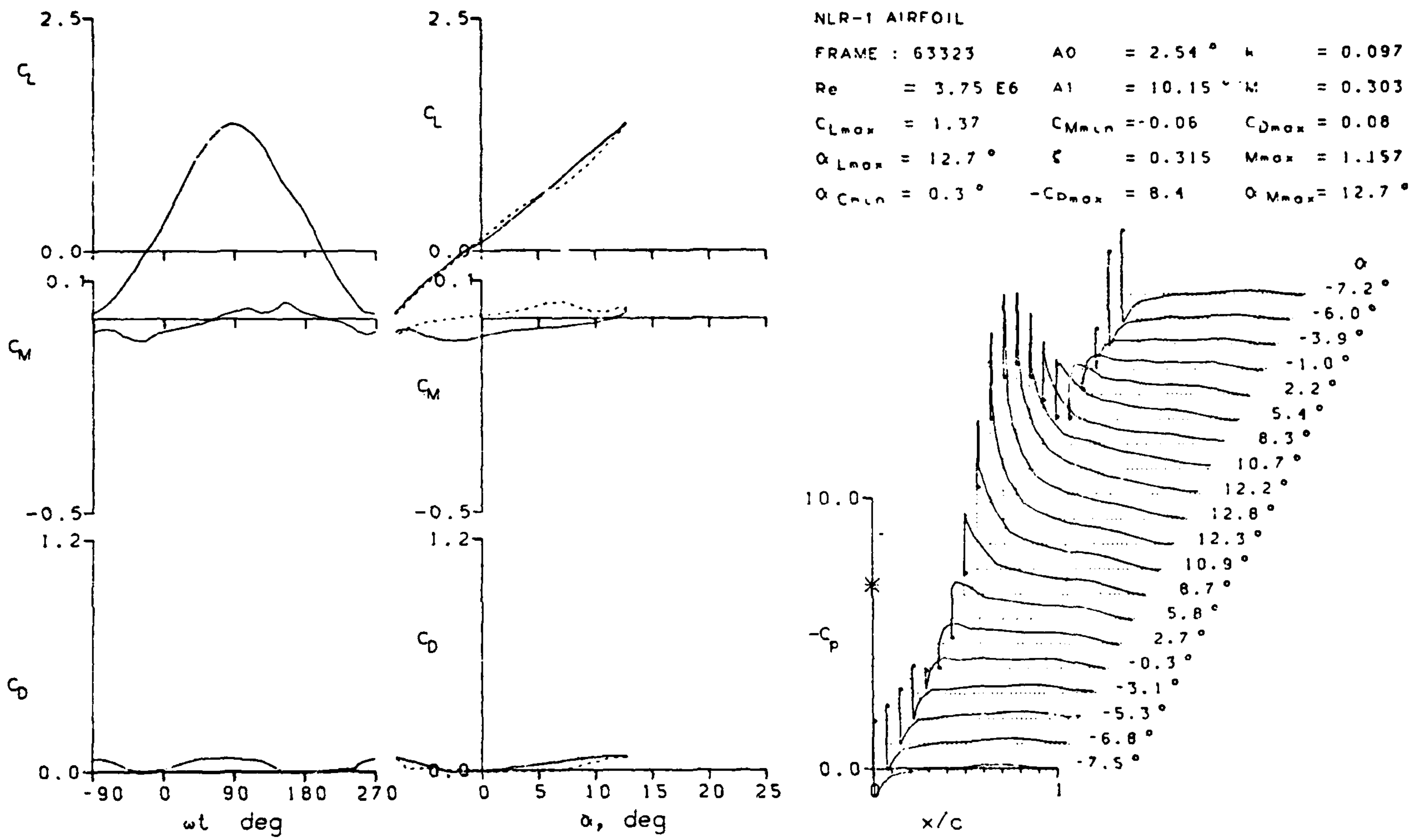

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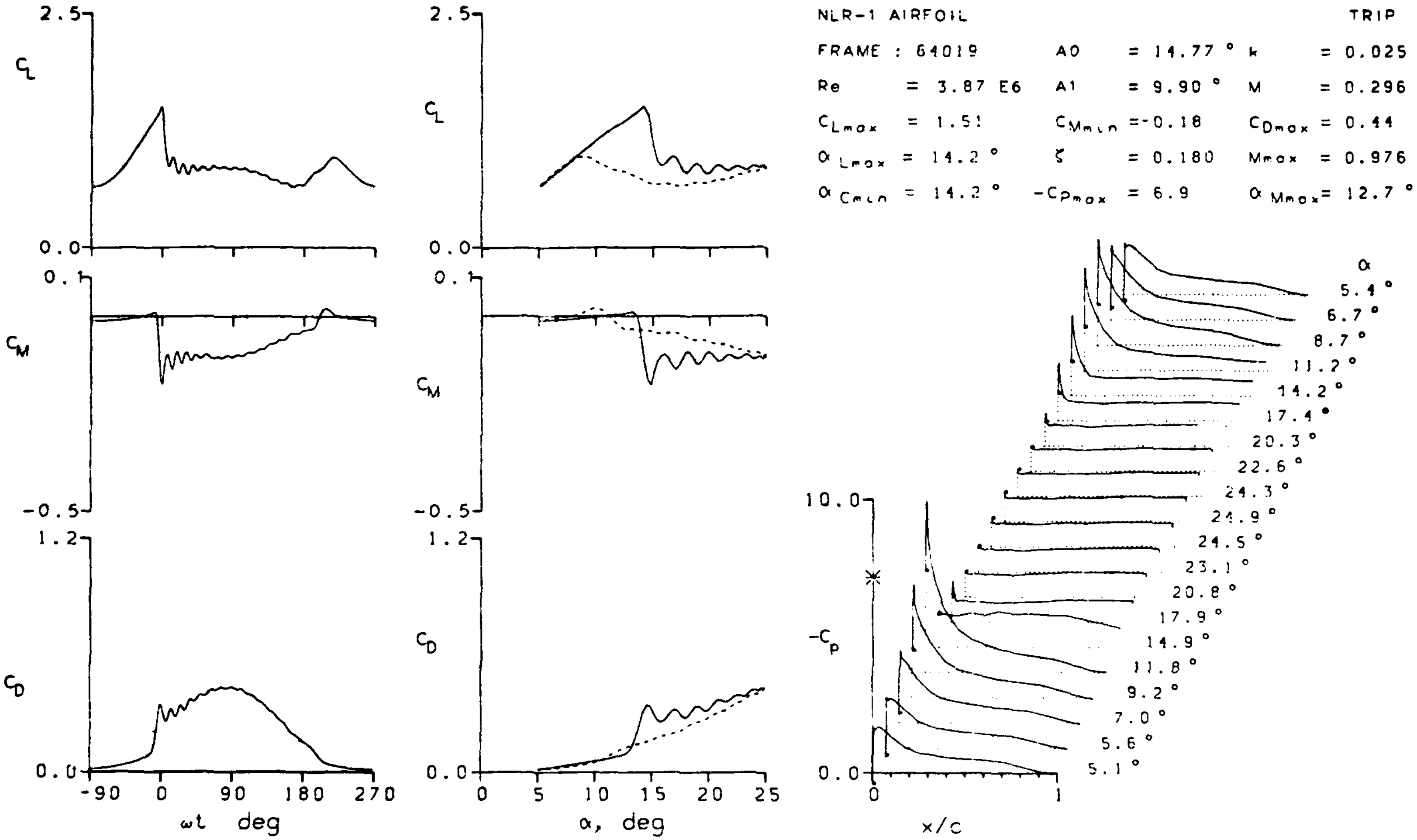

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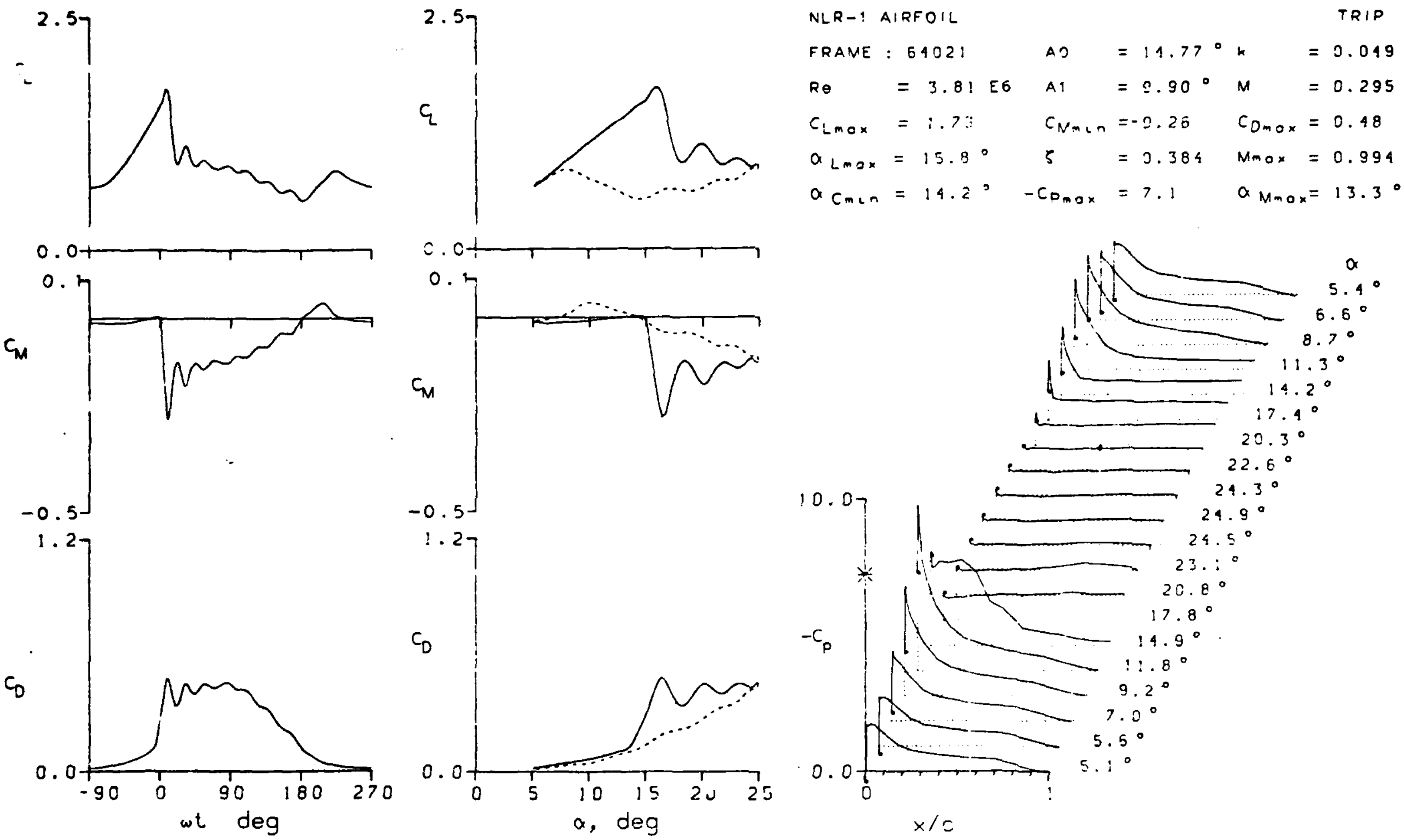

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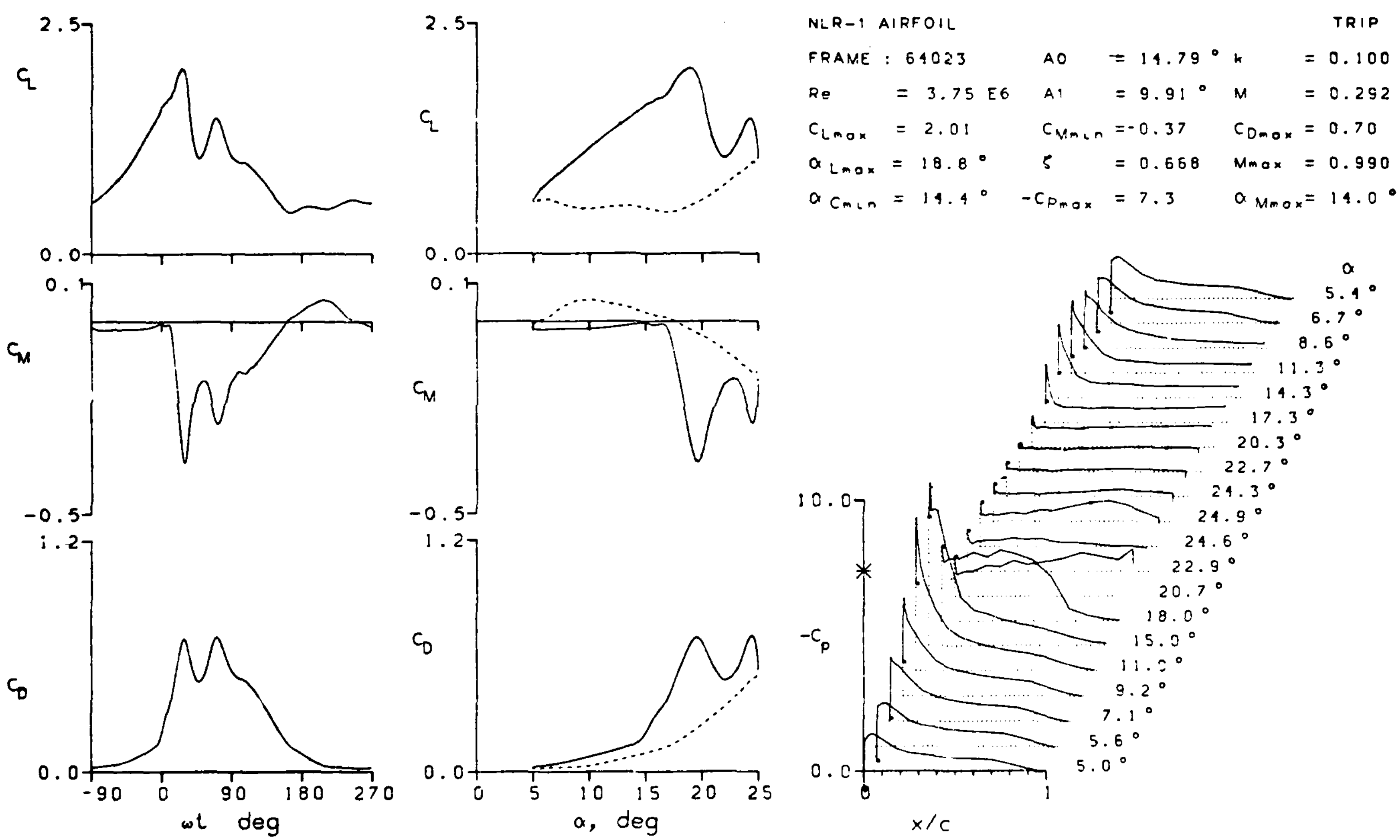

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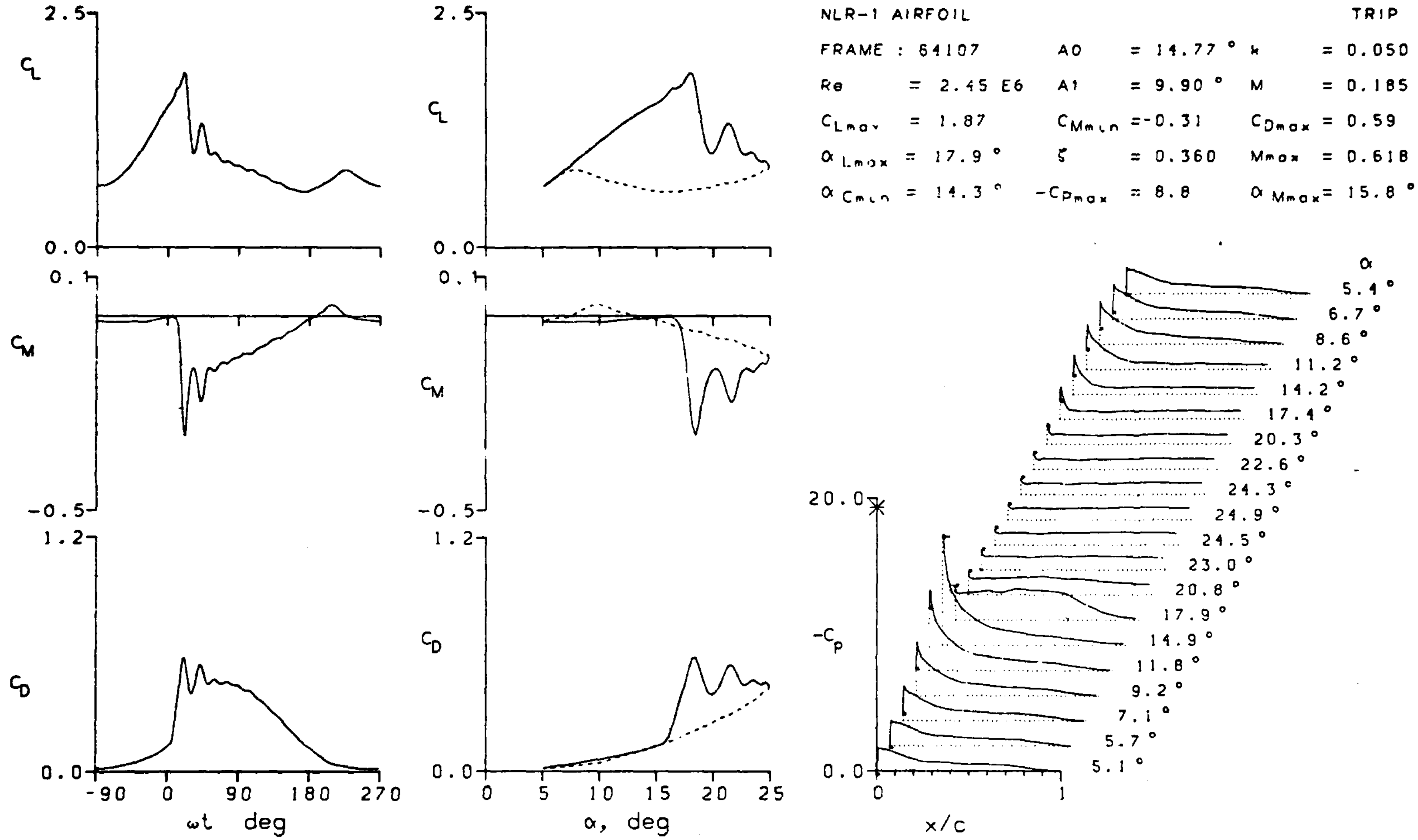

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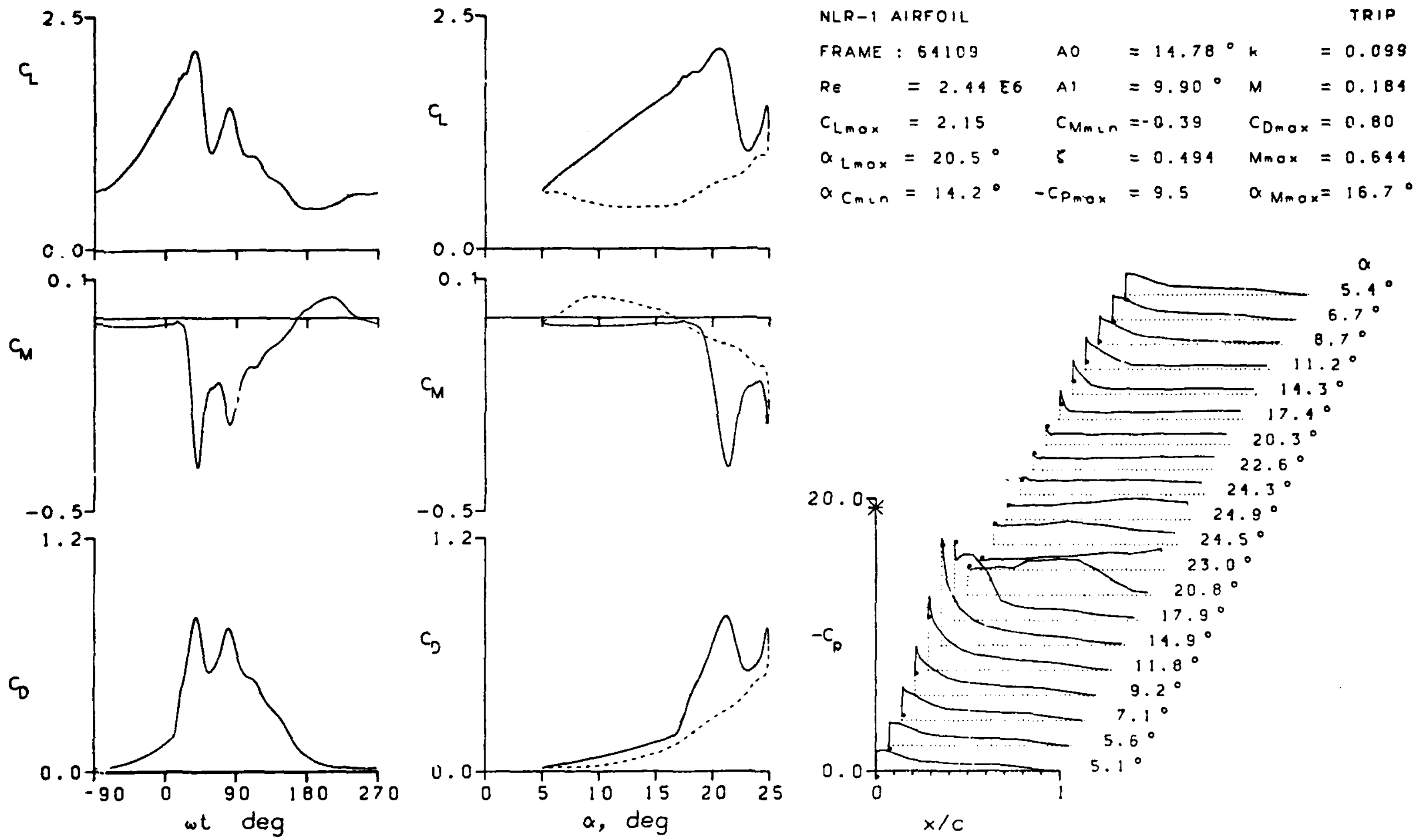

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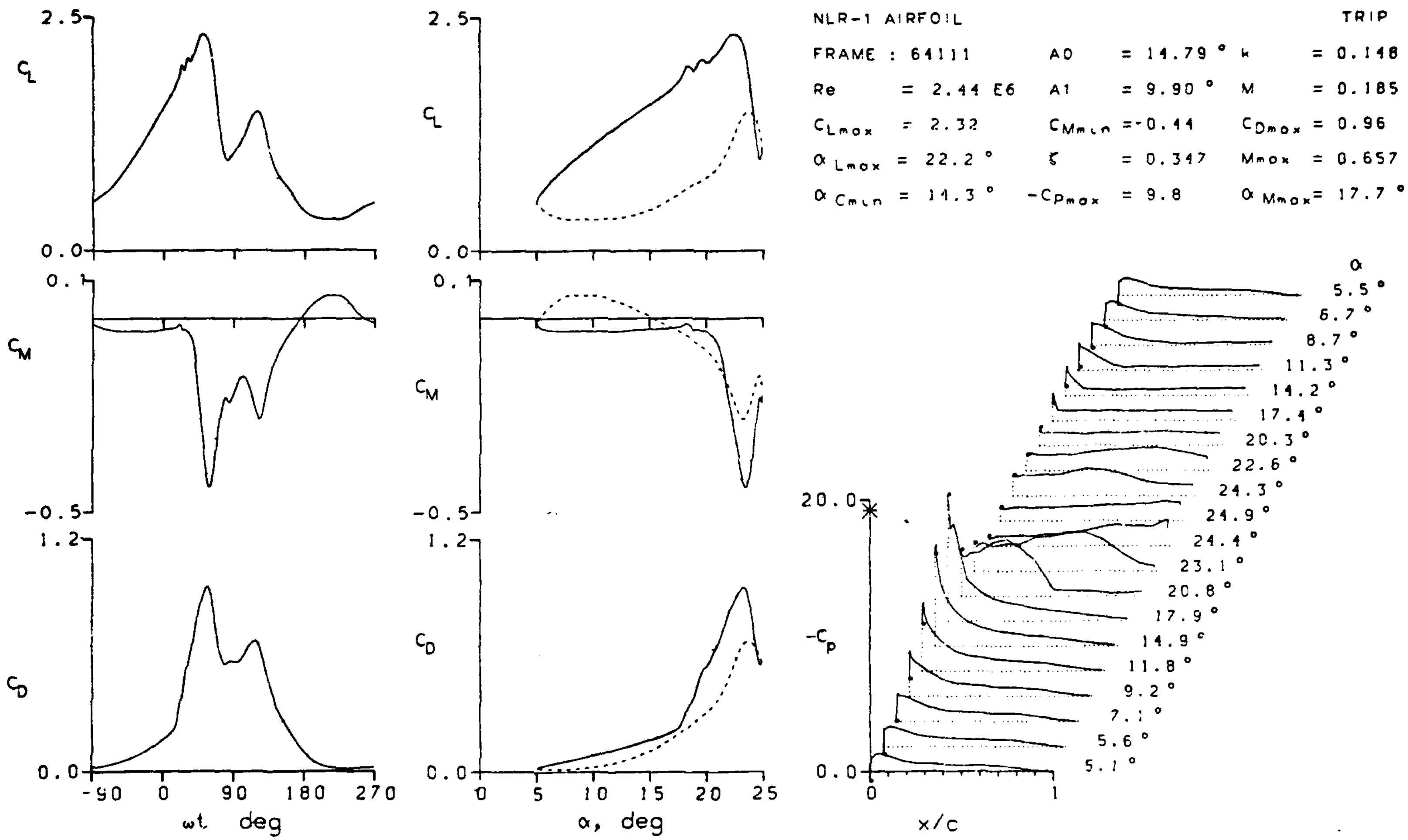

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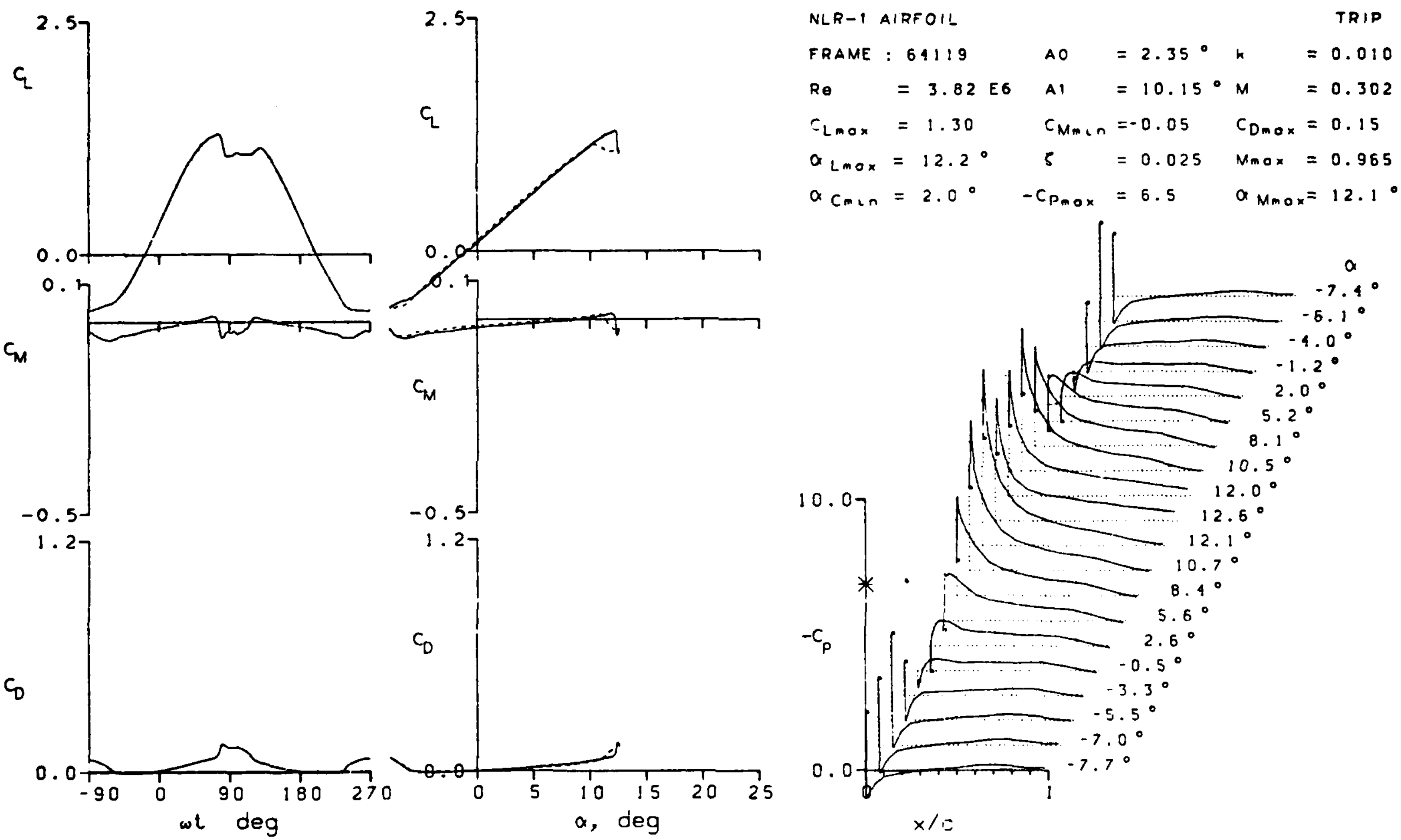

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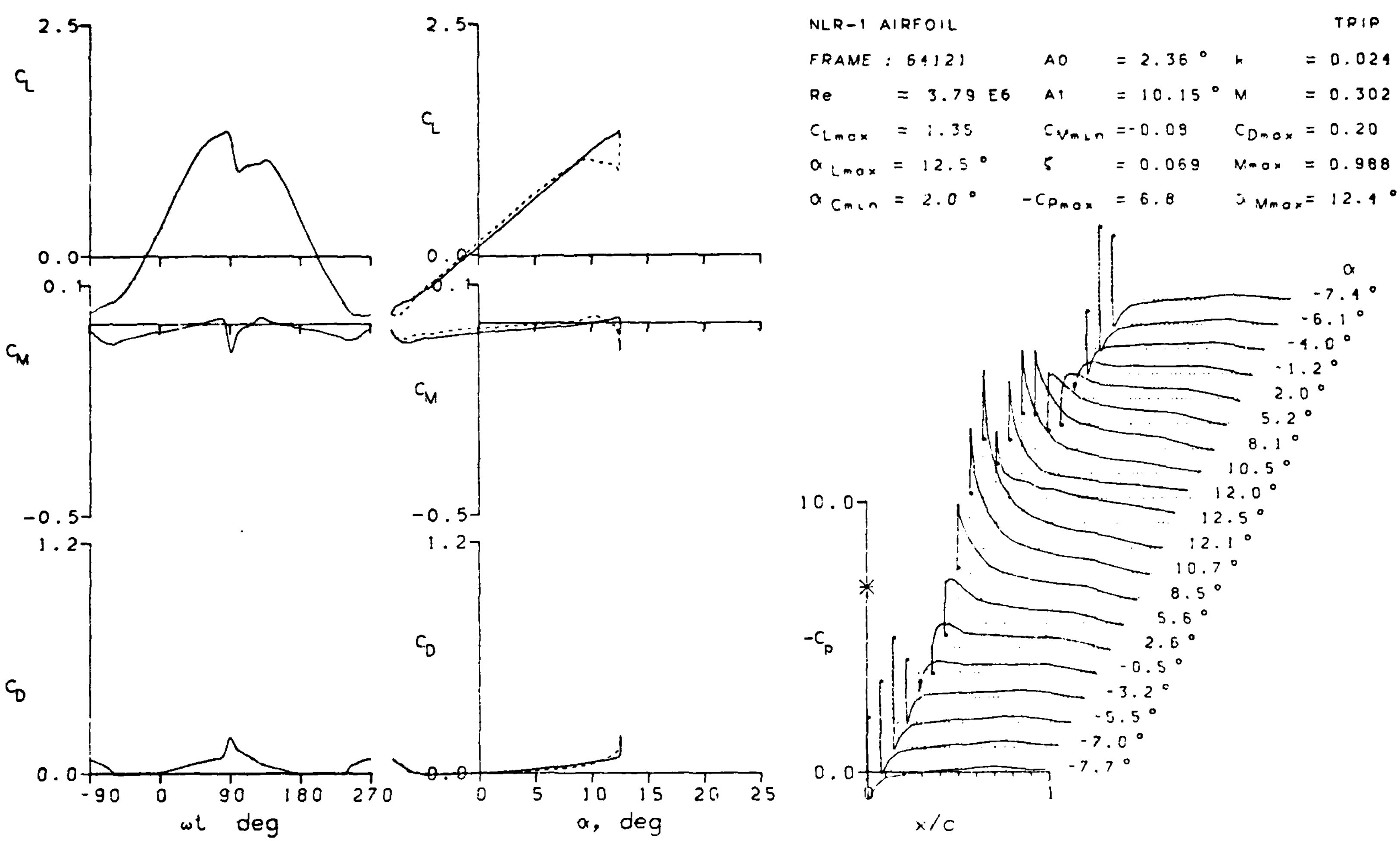

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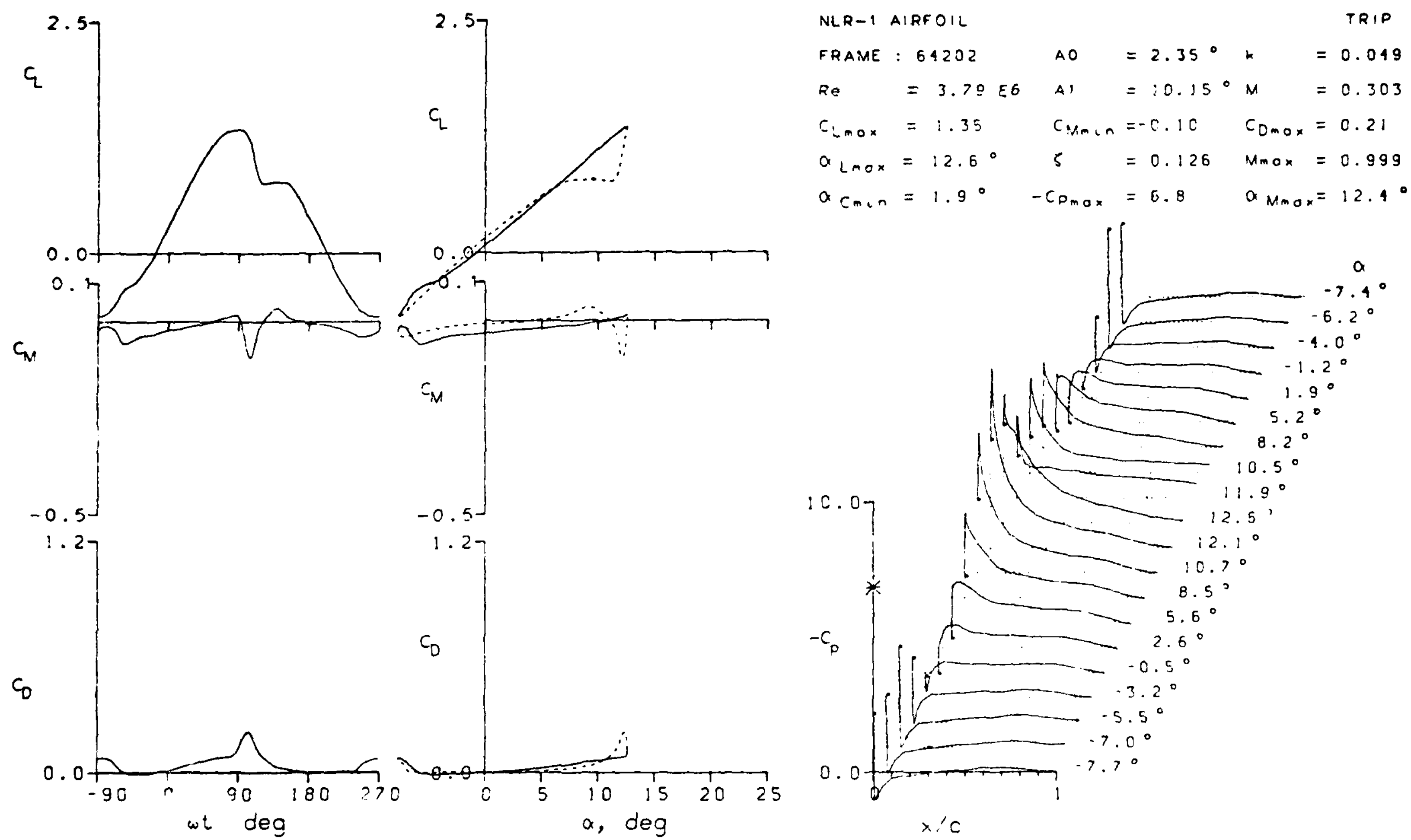

Figure 18.- Continued.

AD-A121 598 AN EXPERIMENTAL STUDY OF DYNAMIC STALL ON ADVANCED AIRFOIL SECTIONS VOLUM..(U) NATIONAL AERONUATICS AND SPACE ADMINISTRATION MOFFETT FIELD C..

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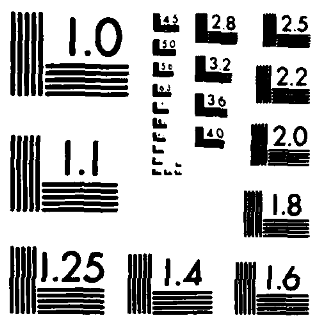

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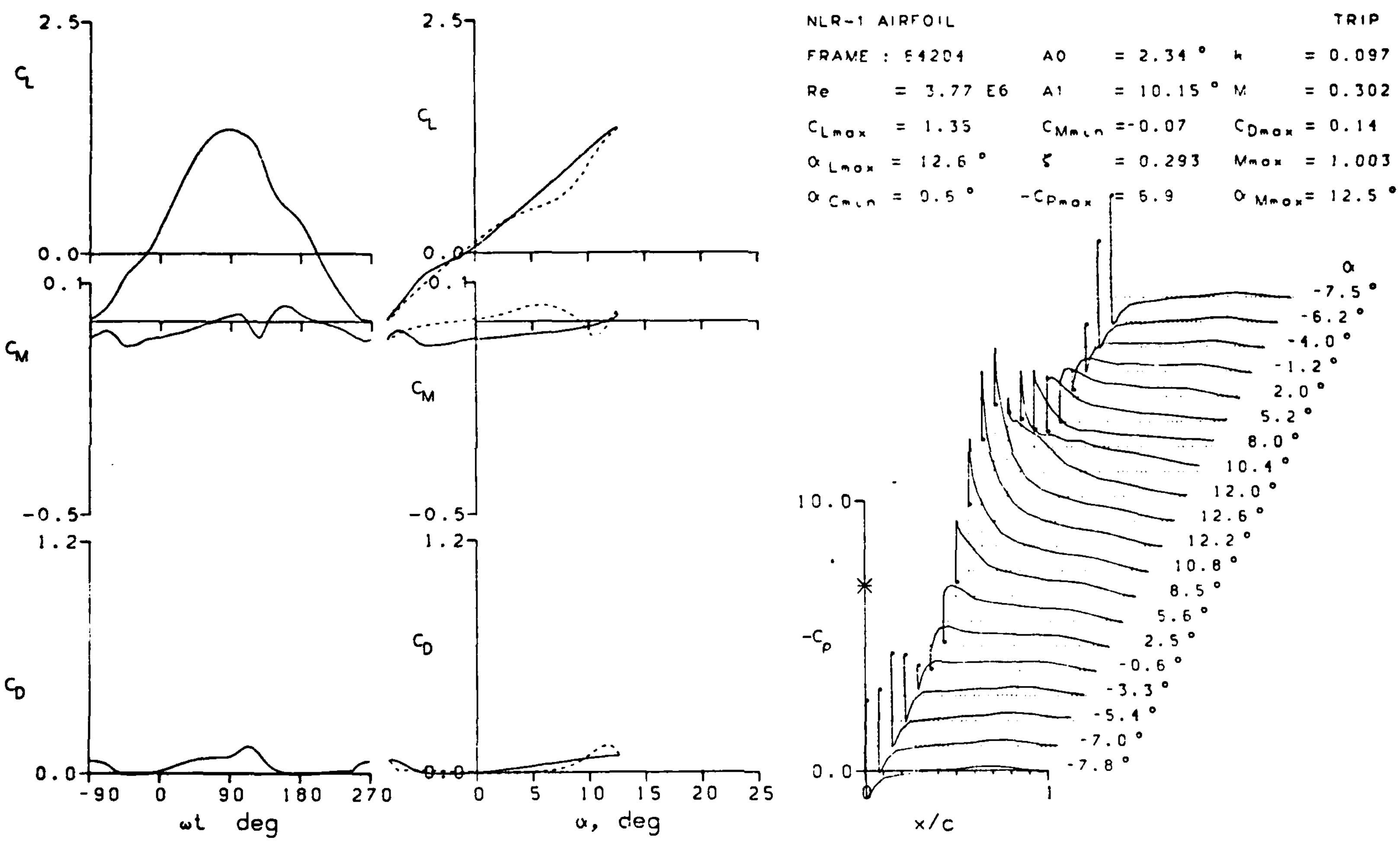

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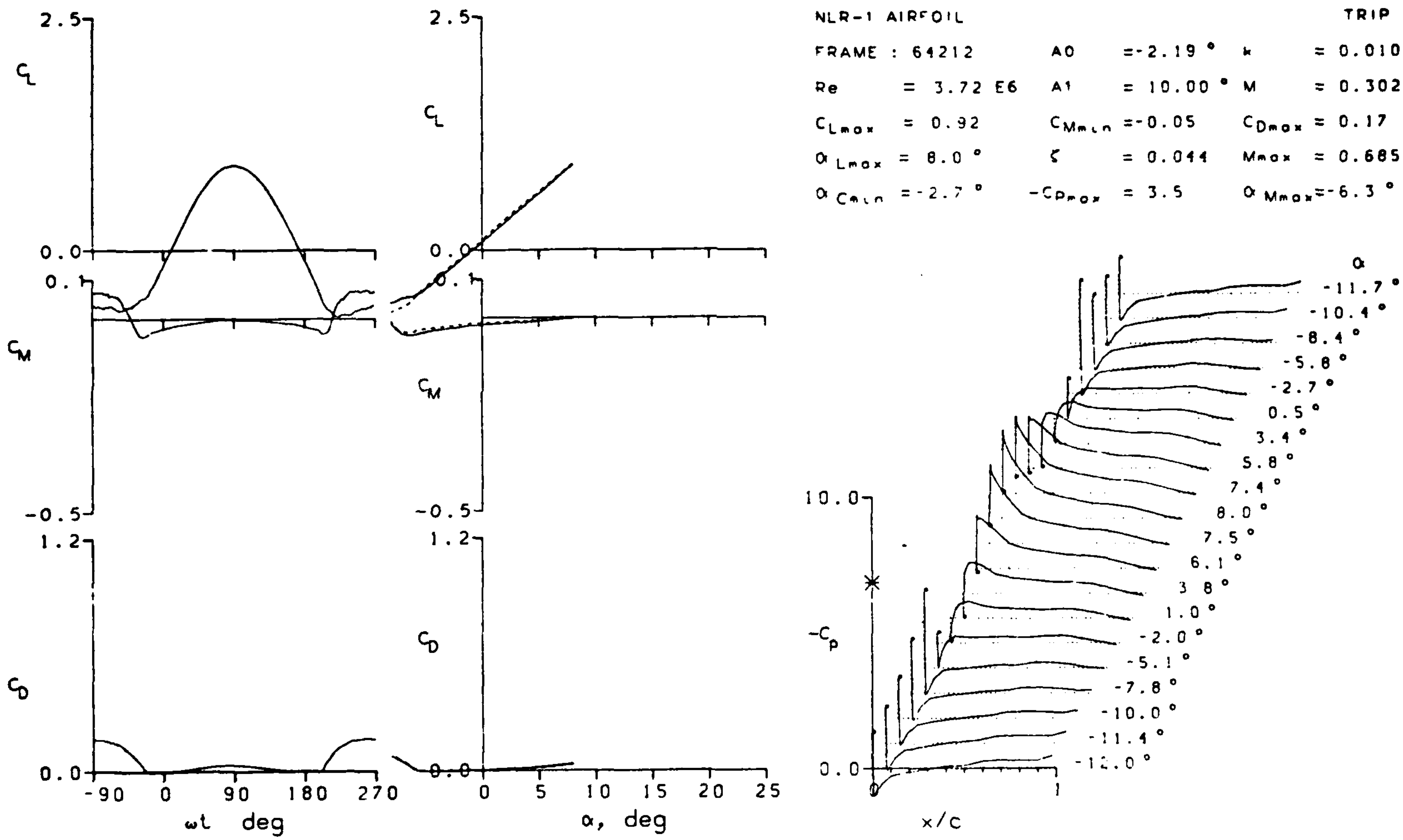

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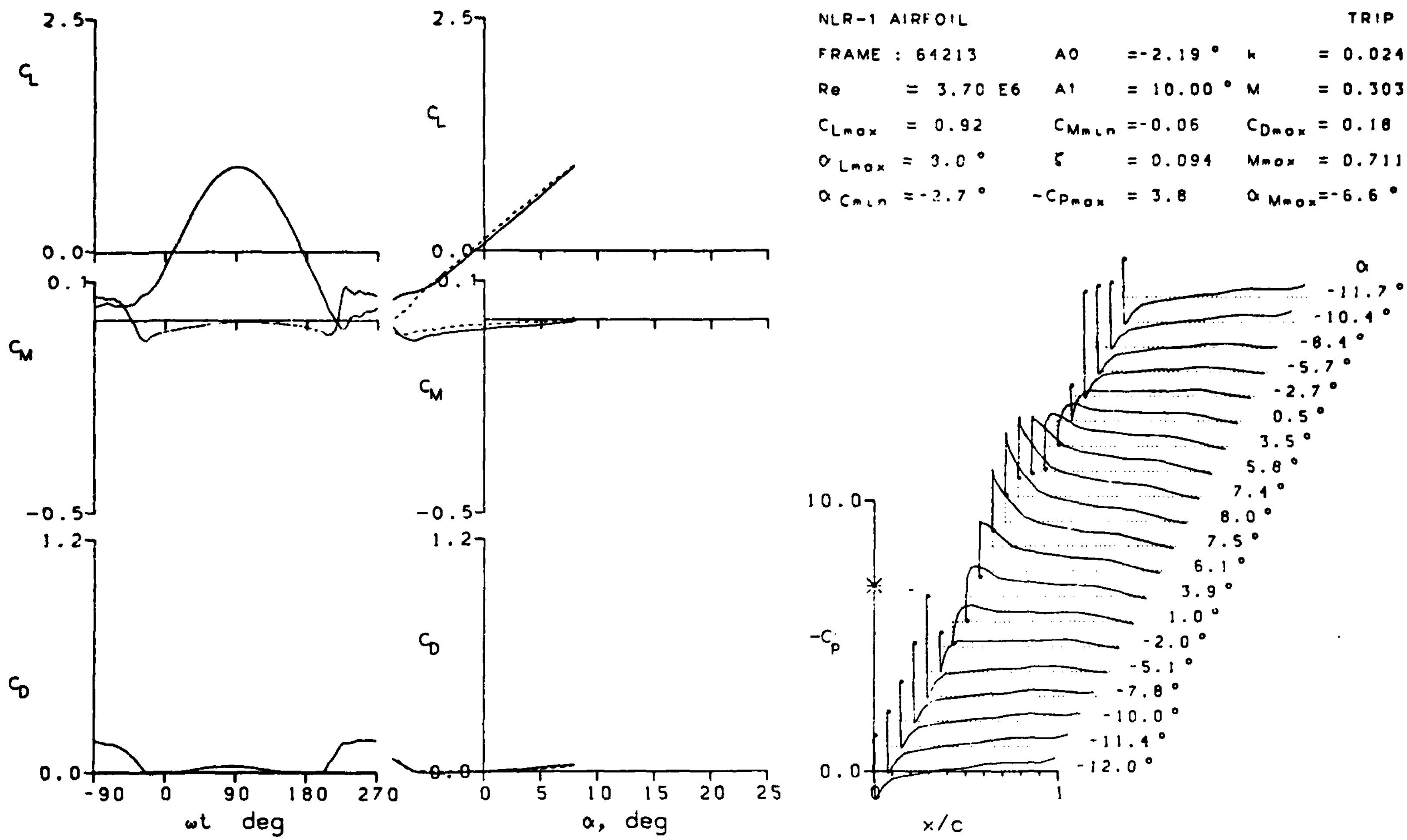

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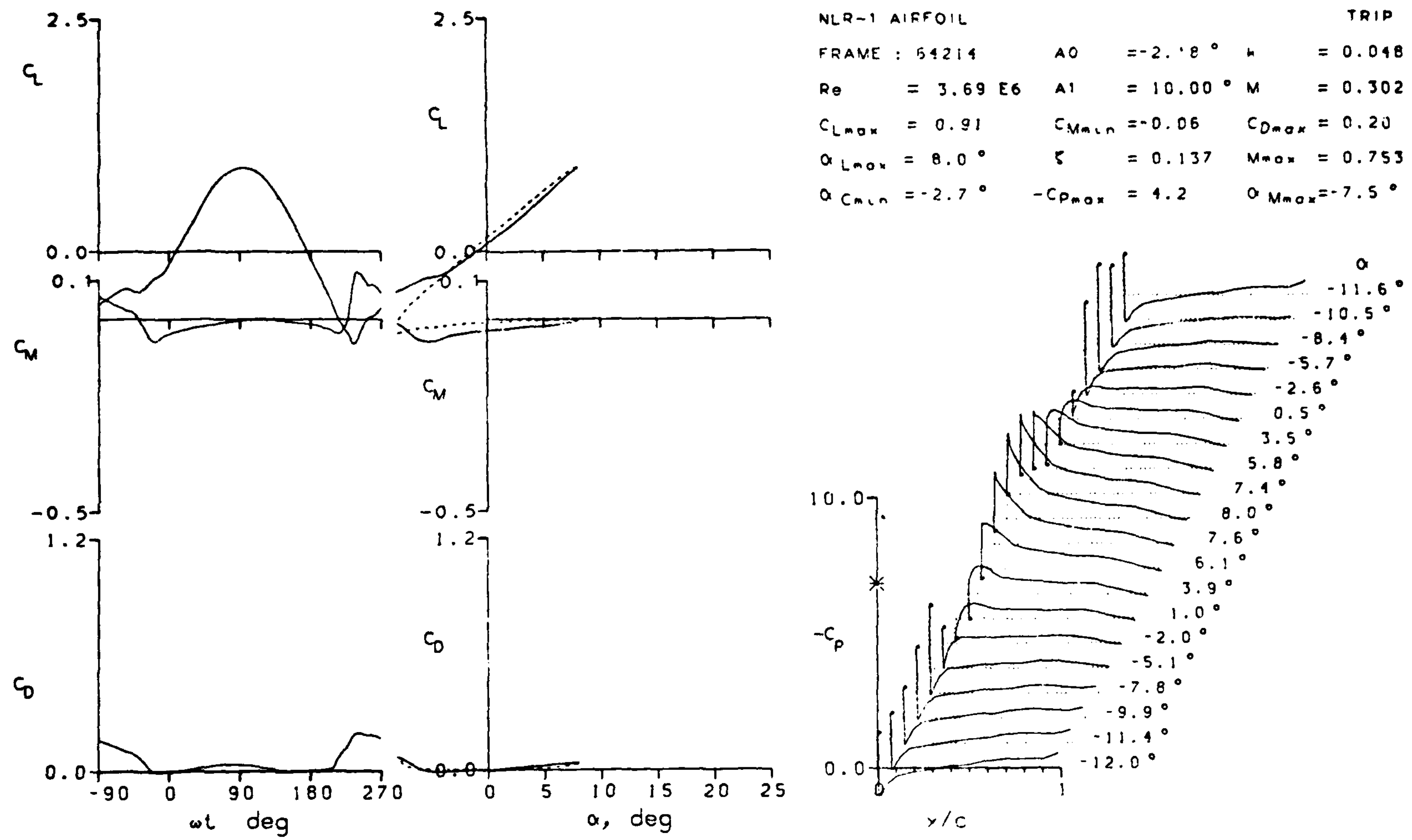

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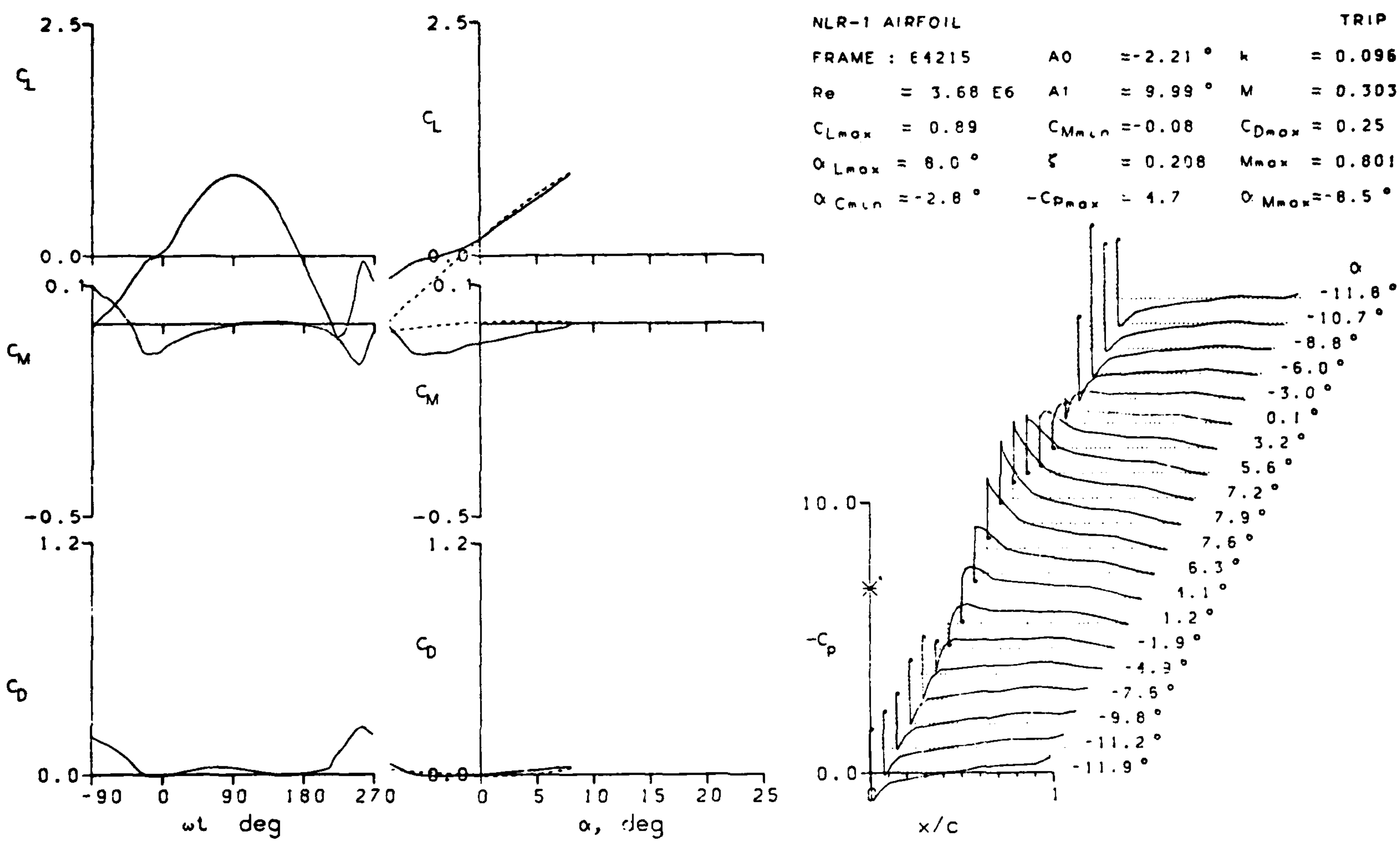

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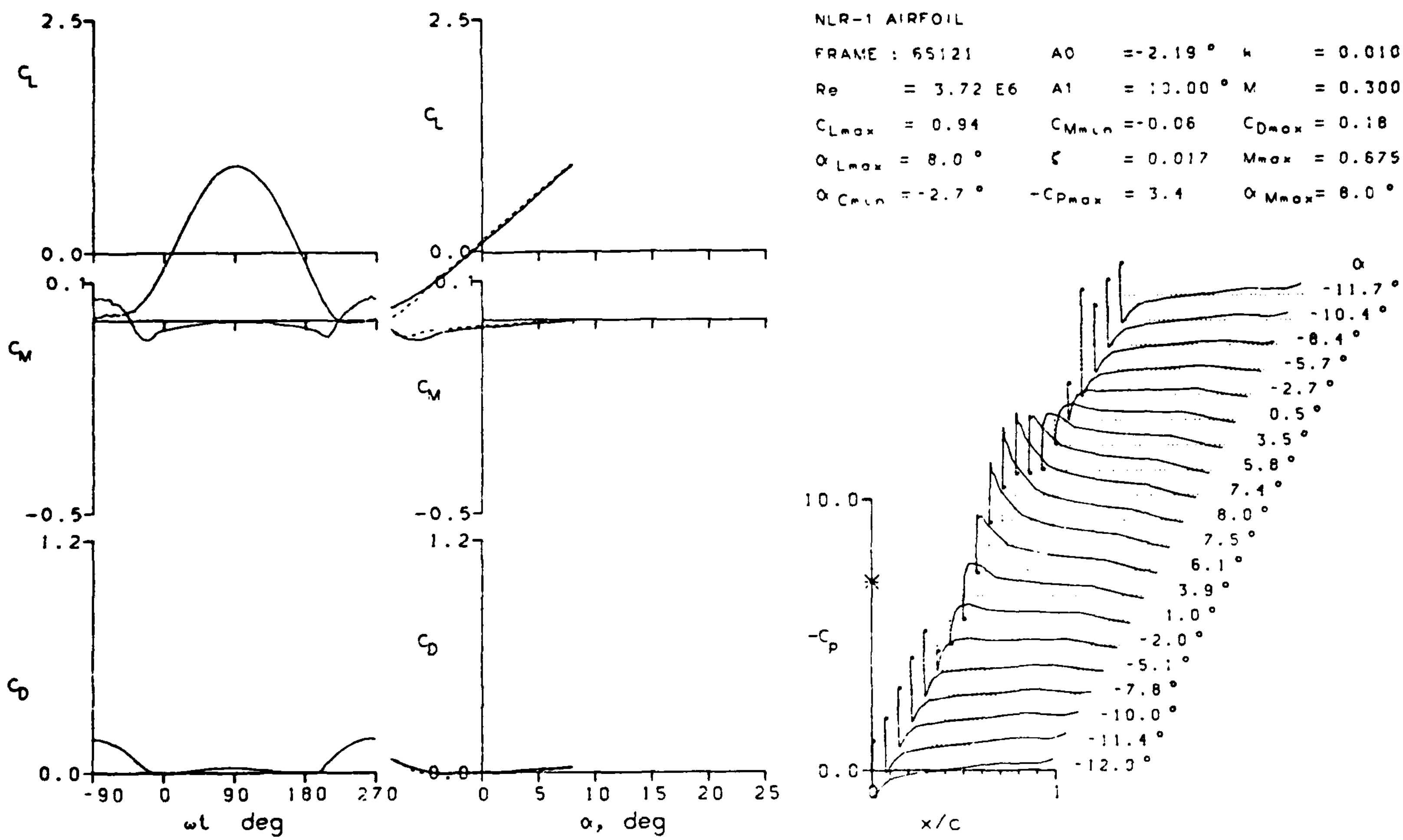

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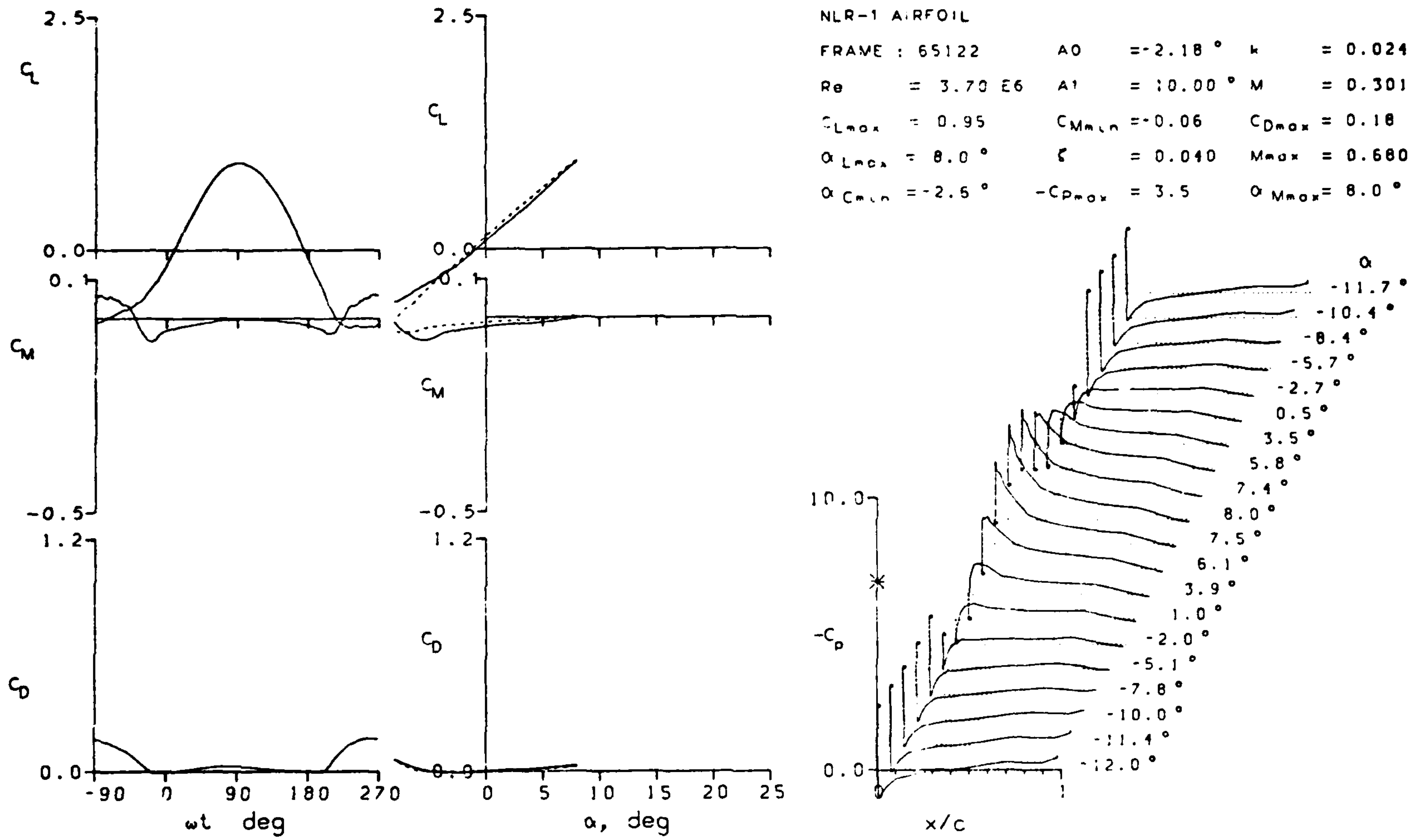

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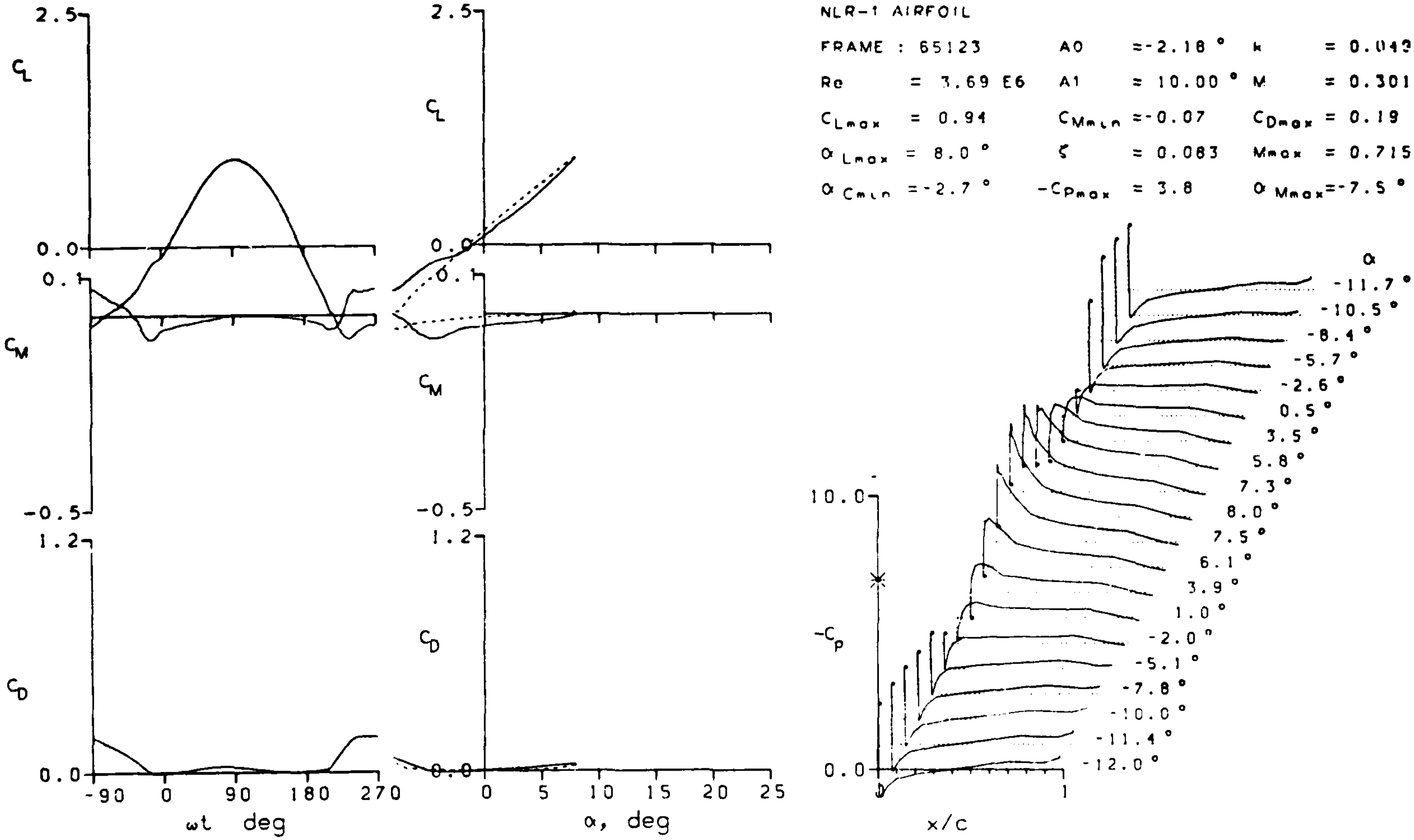

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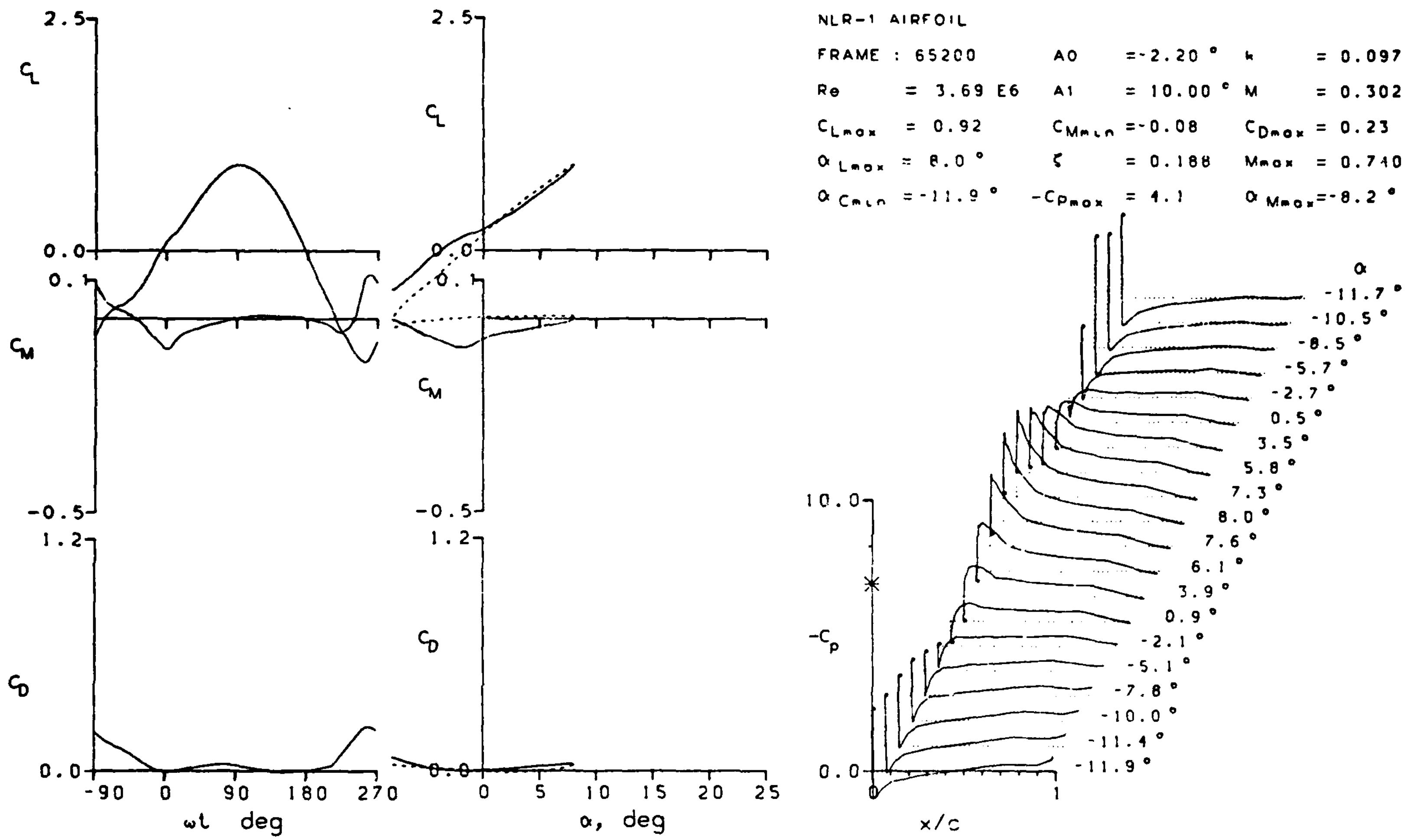

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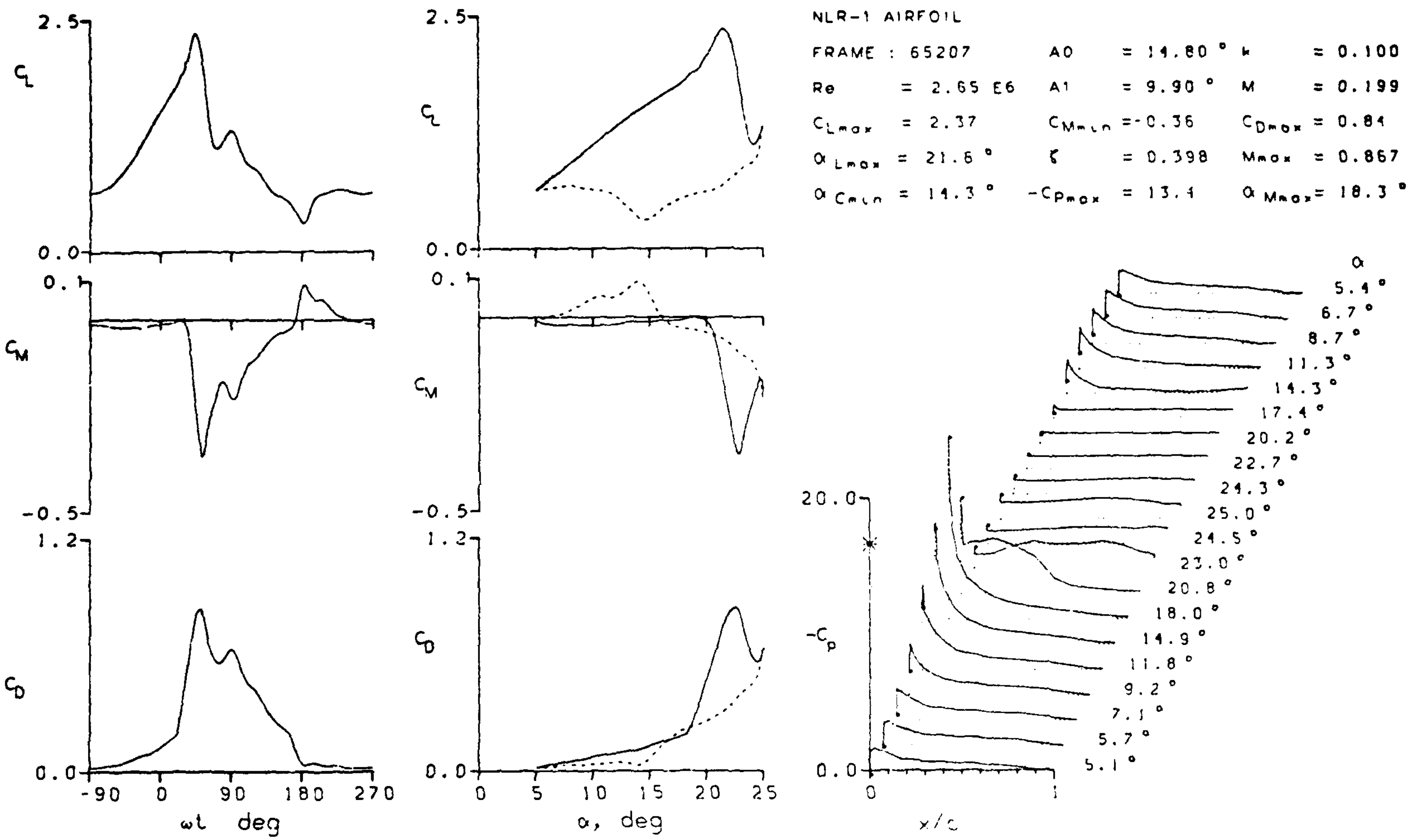

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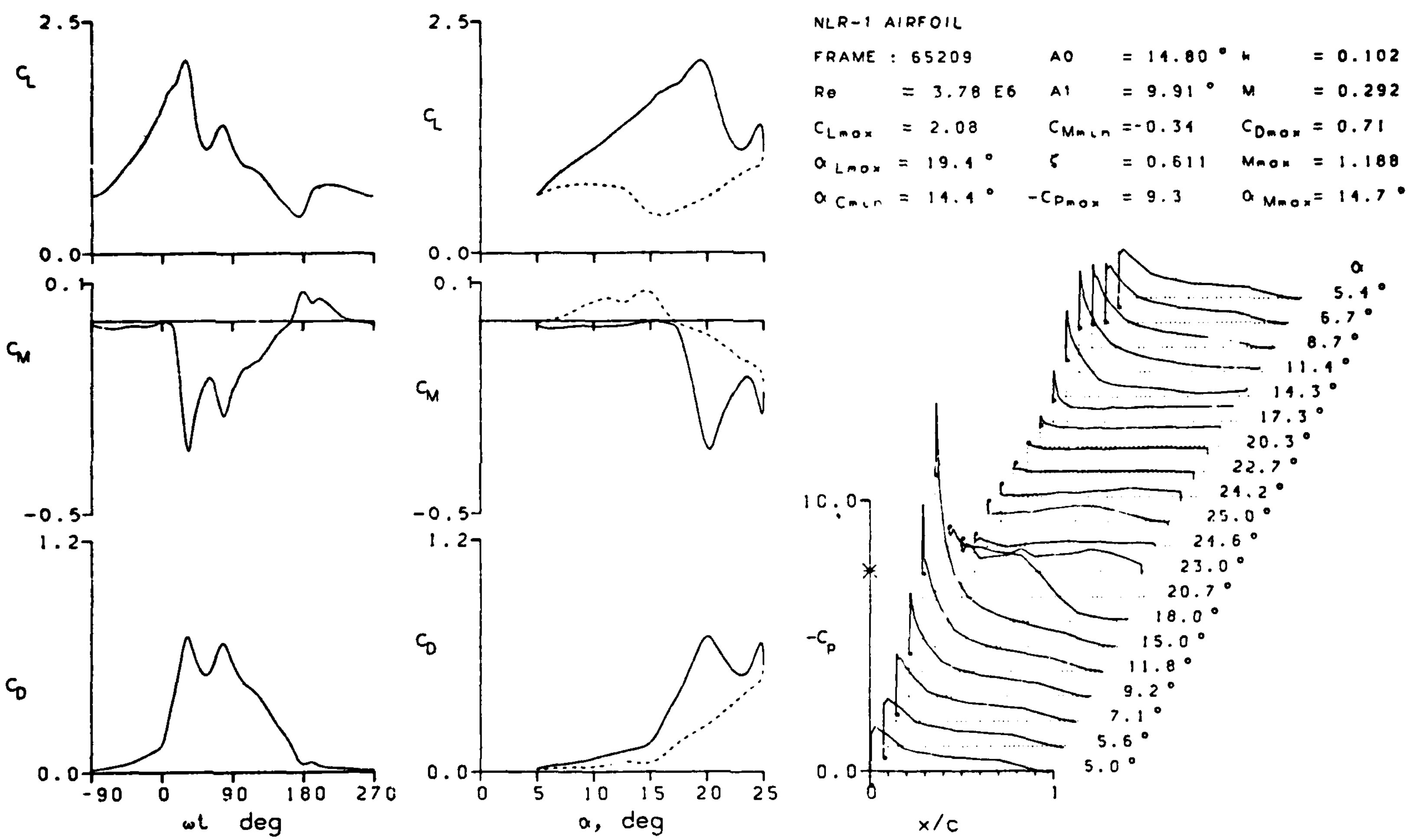

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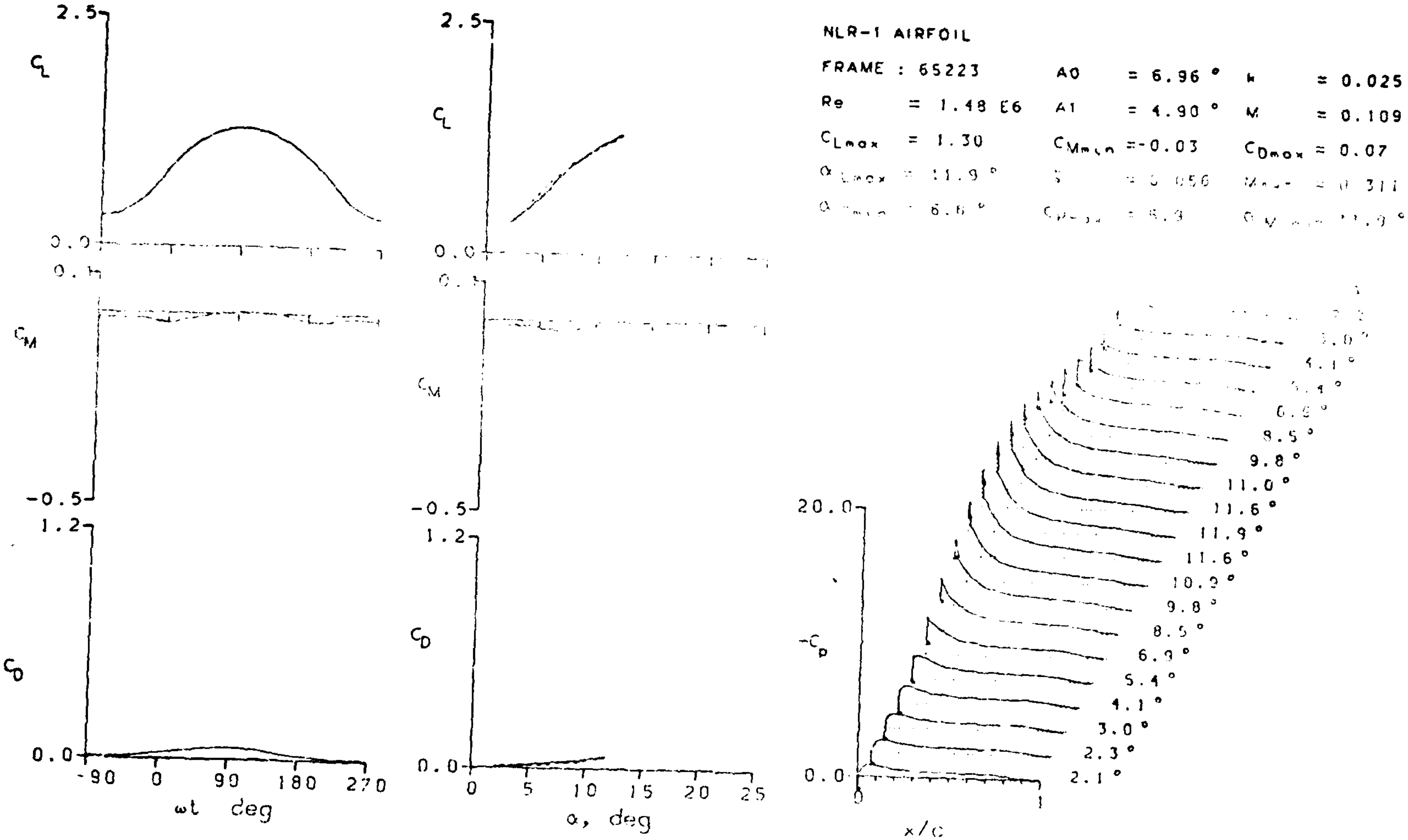

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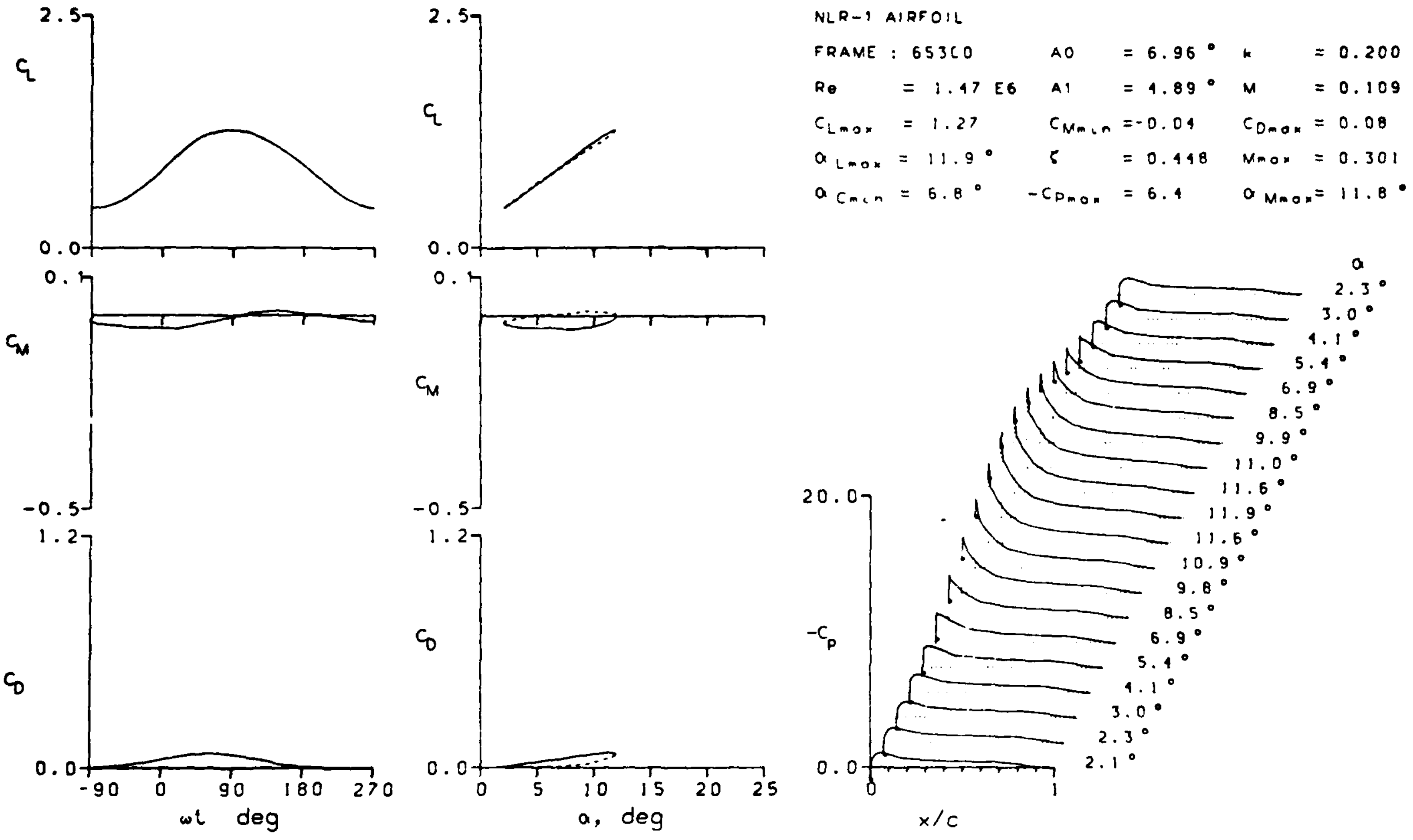

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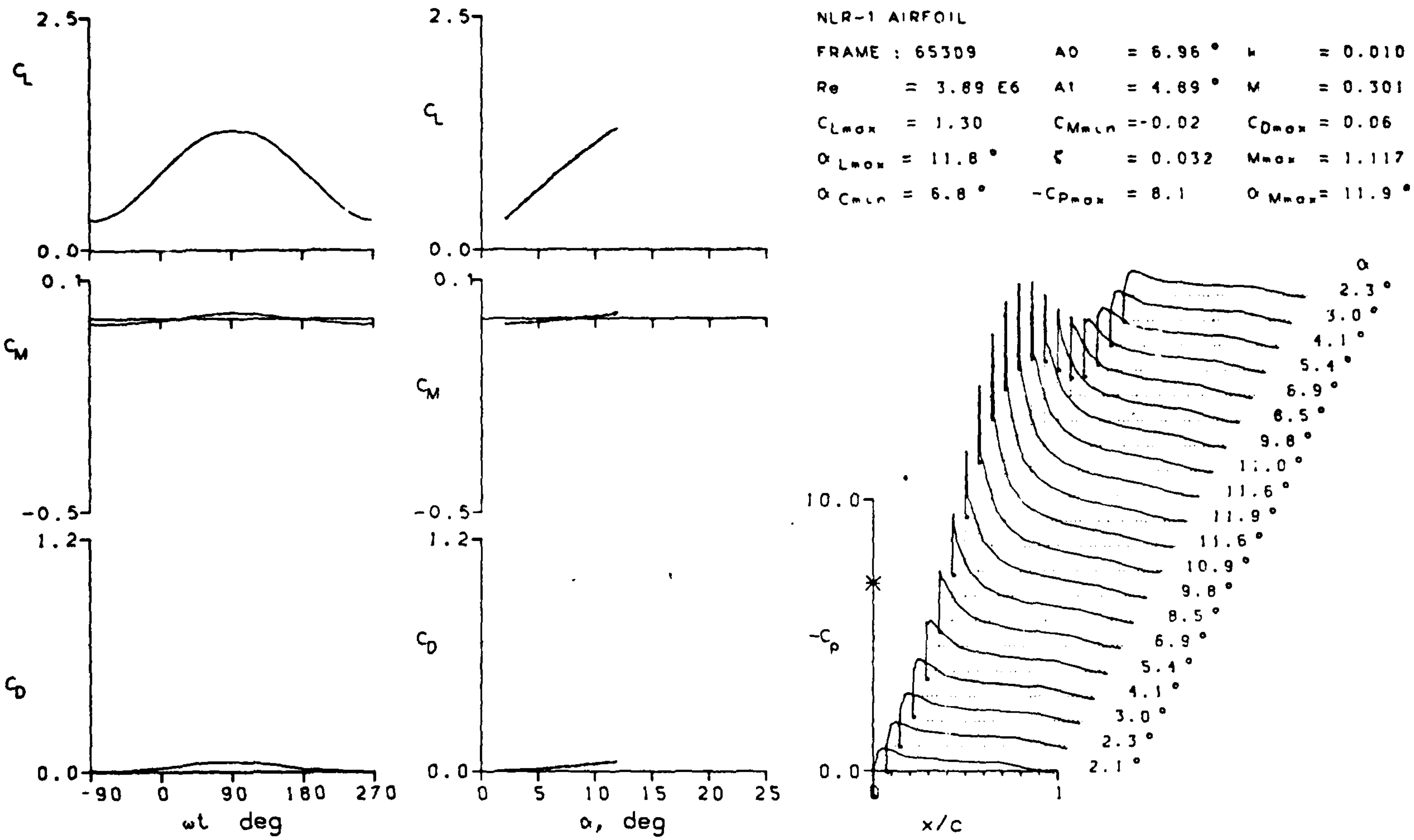

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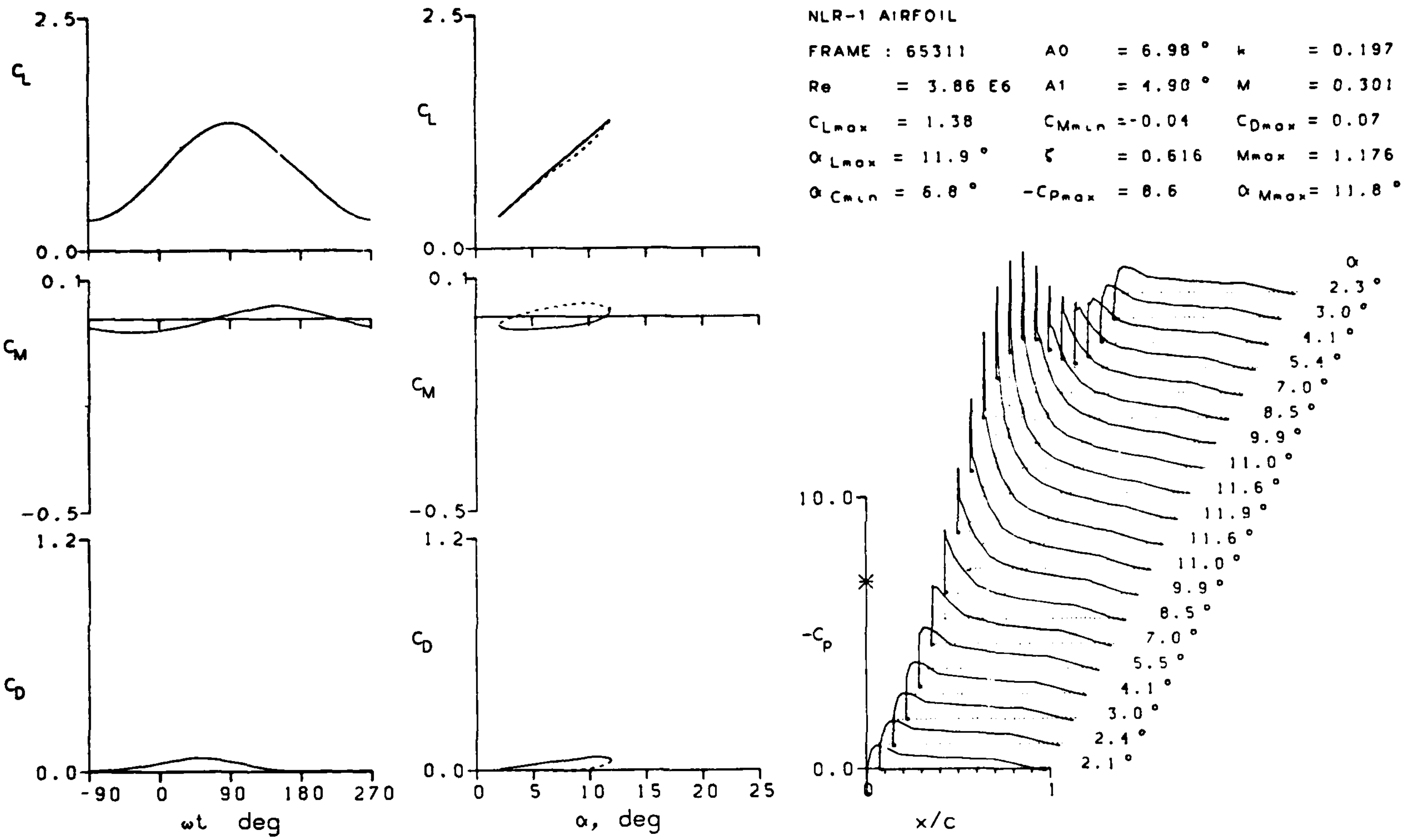

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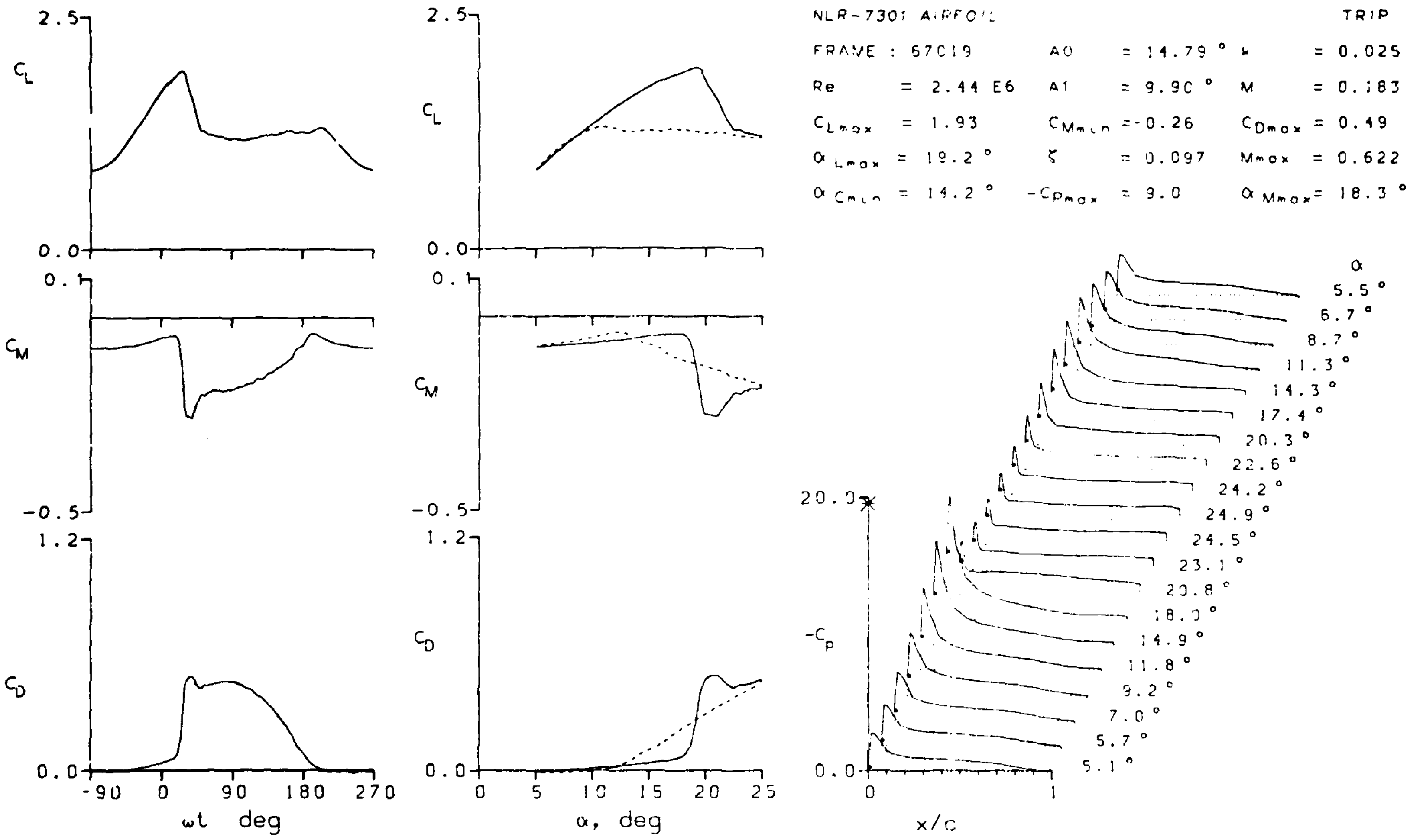

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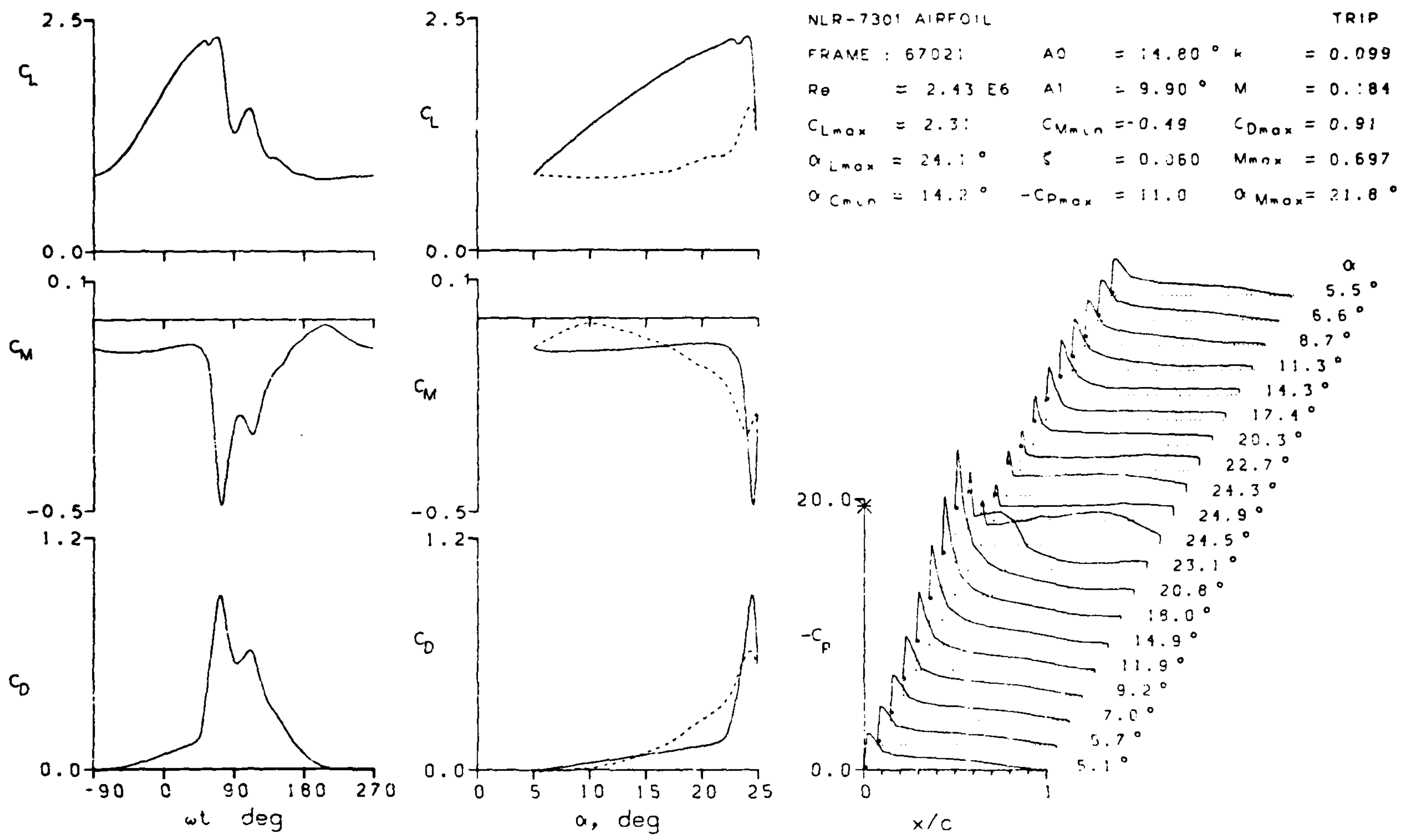

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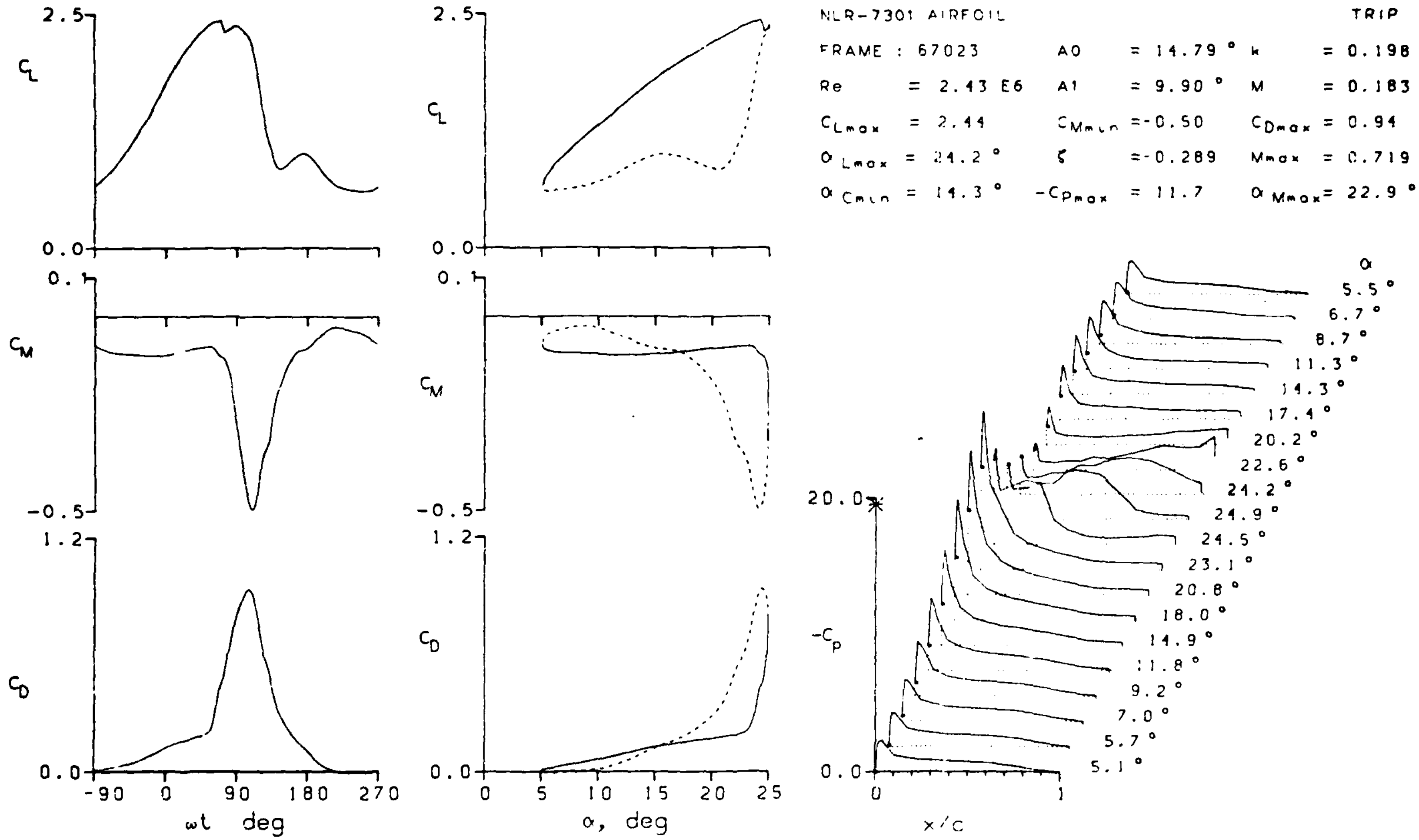

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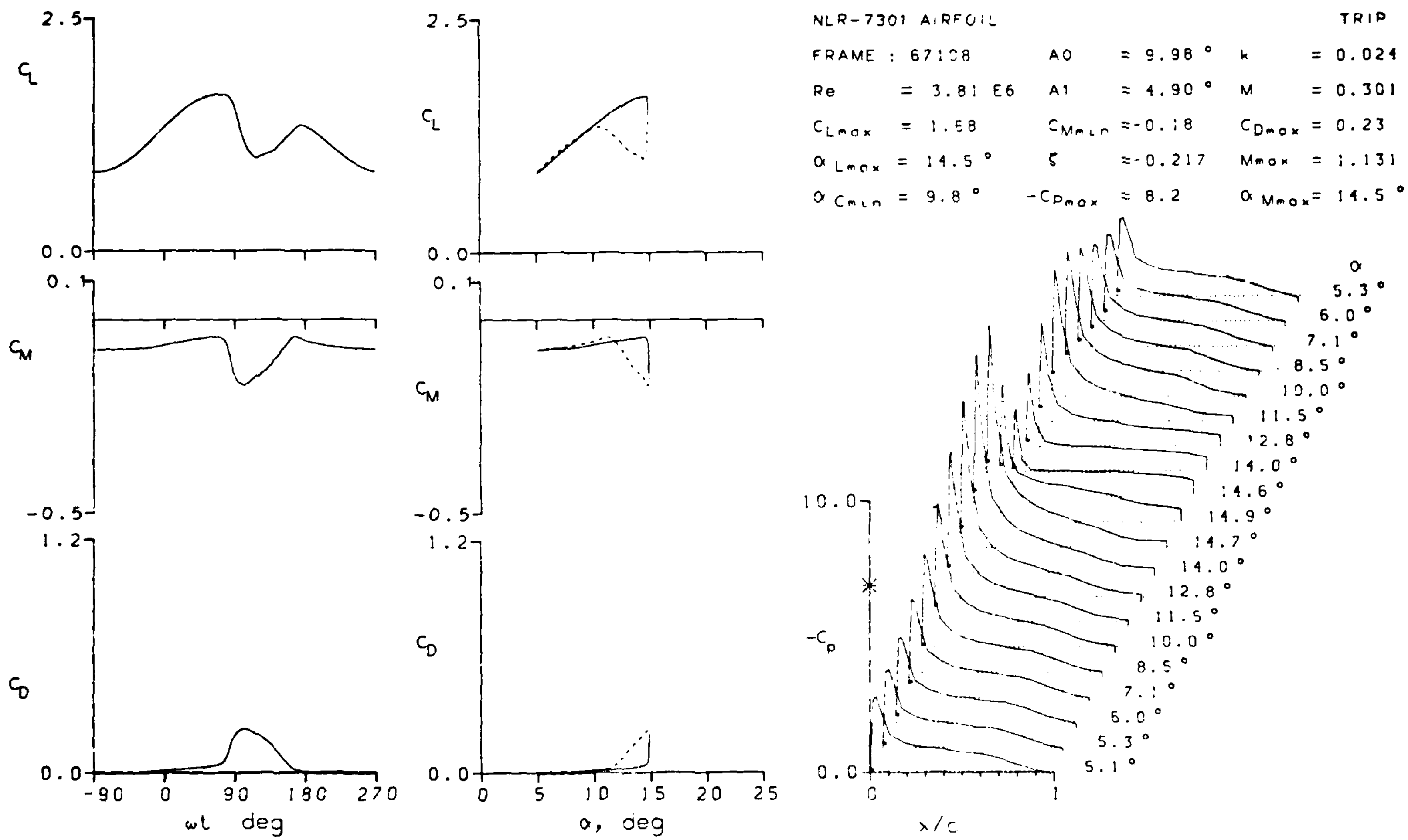

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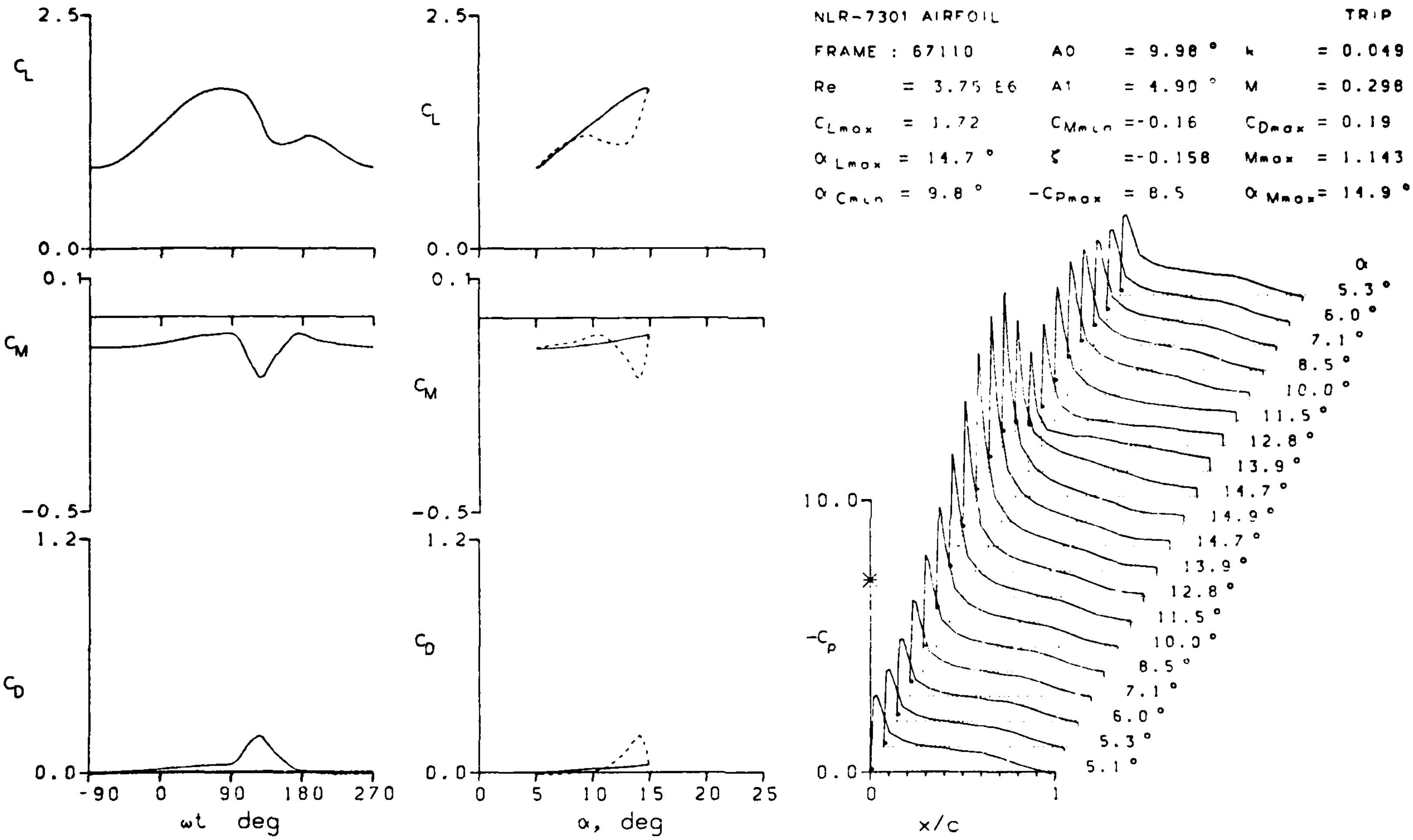

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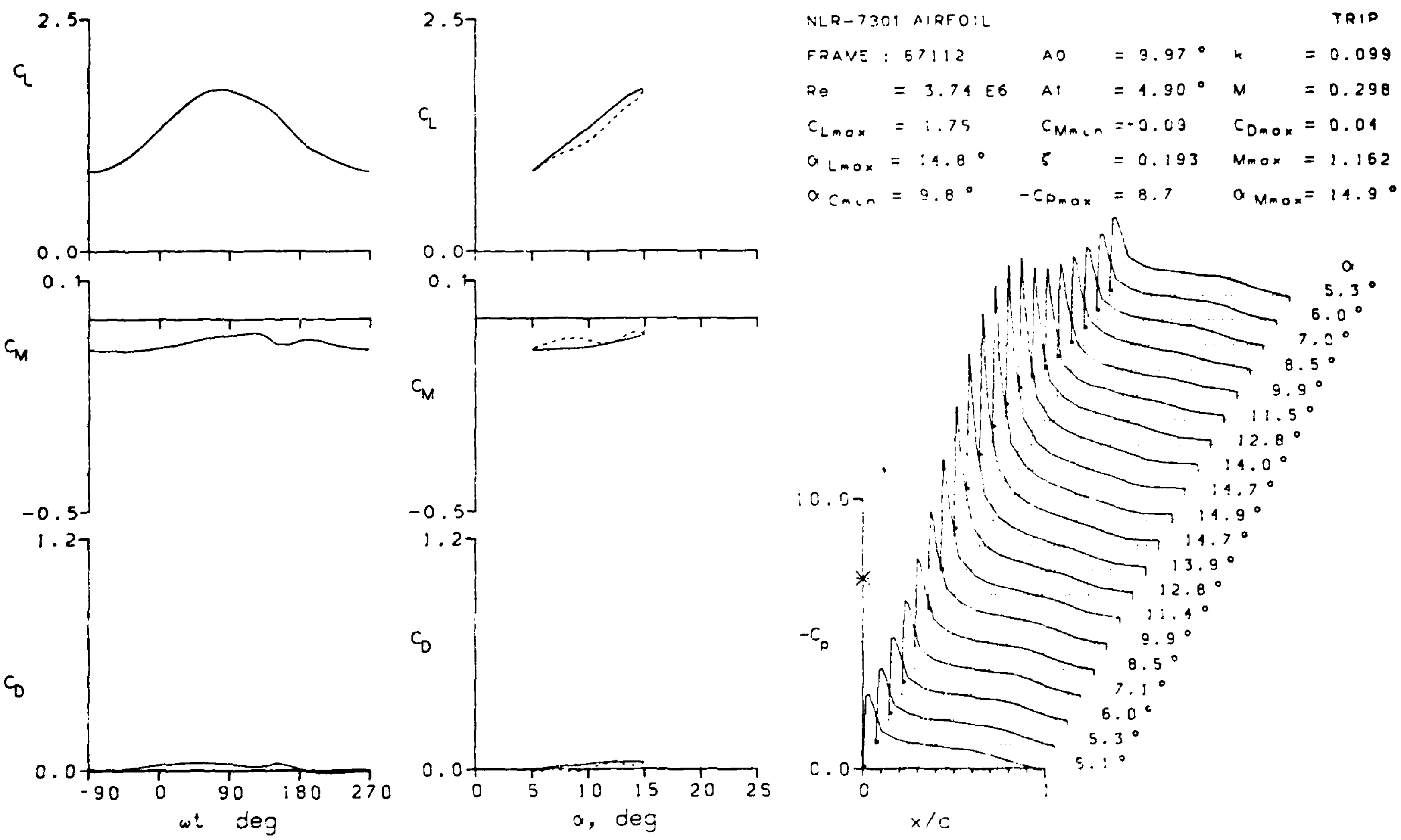

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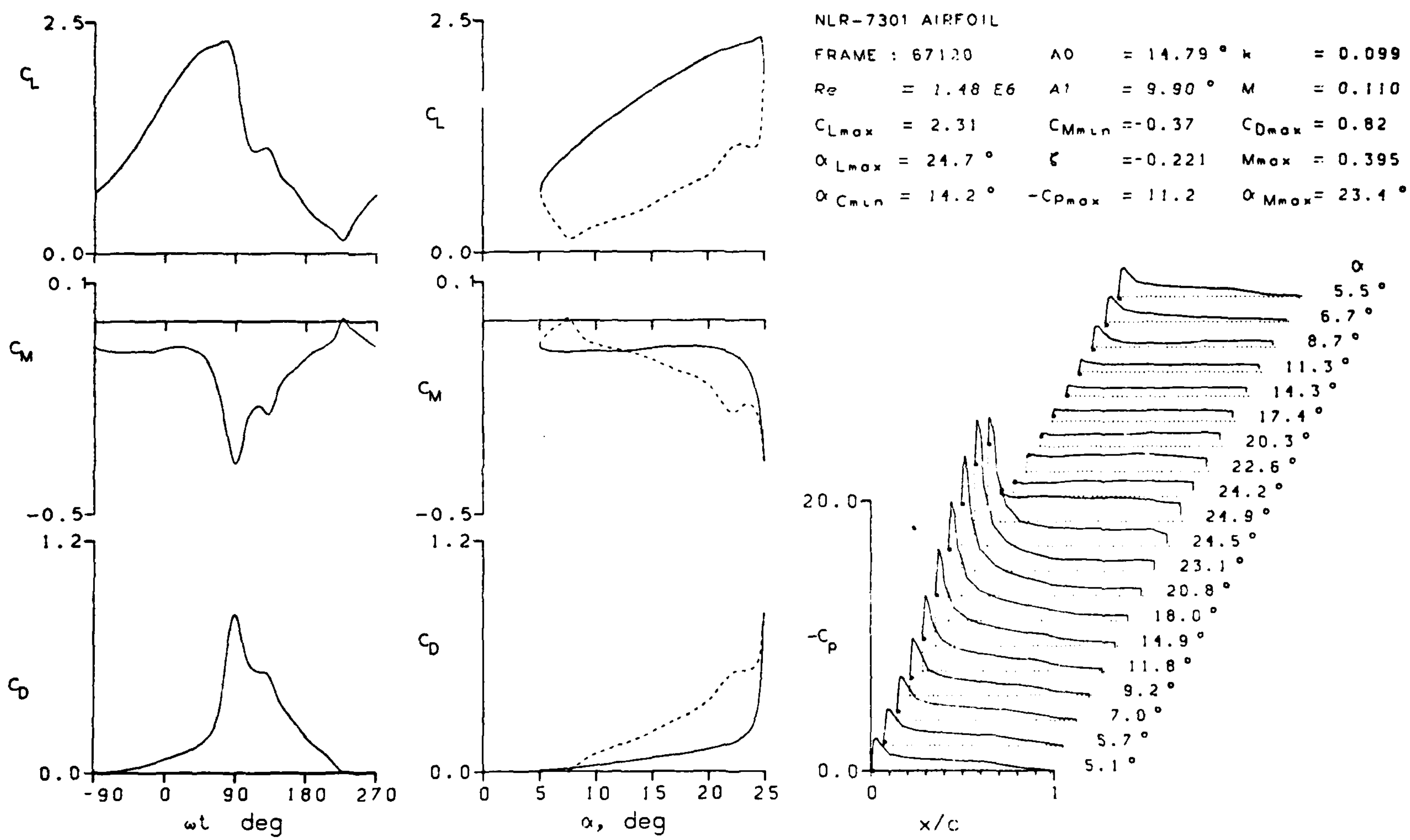

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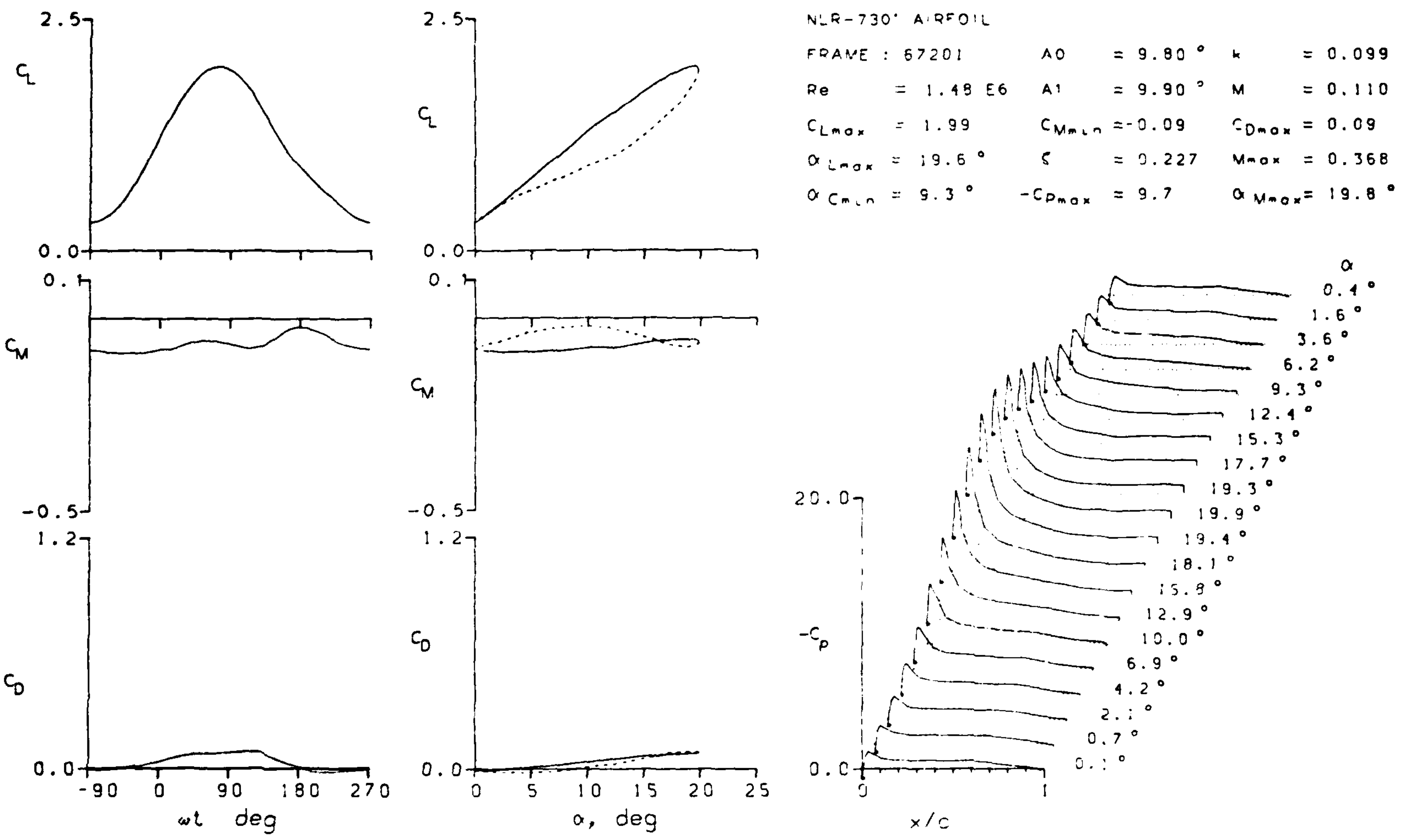

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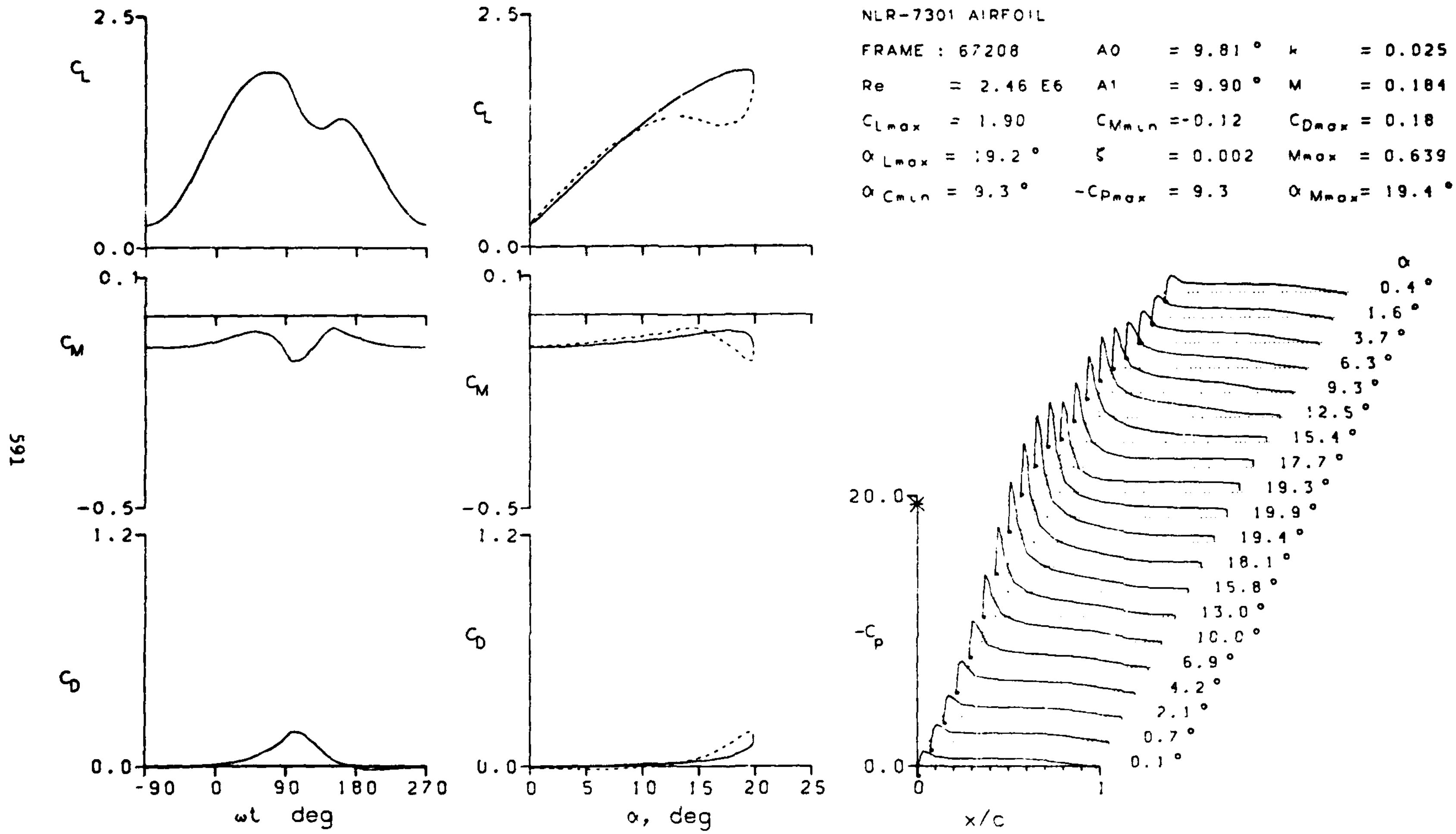

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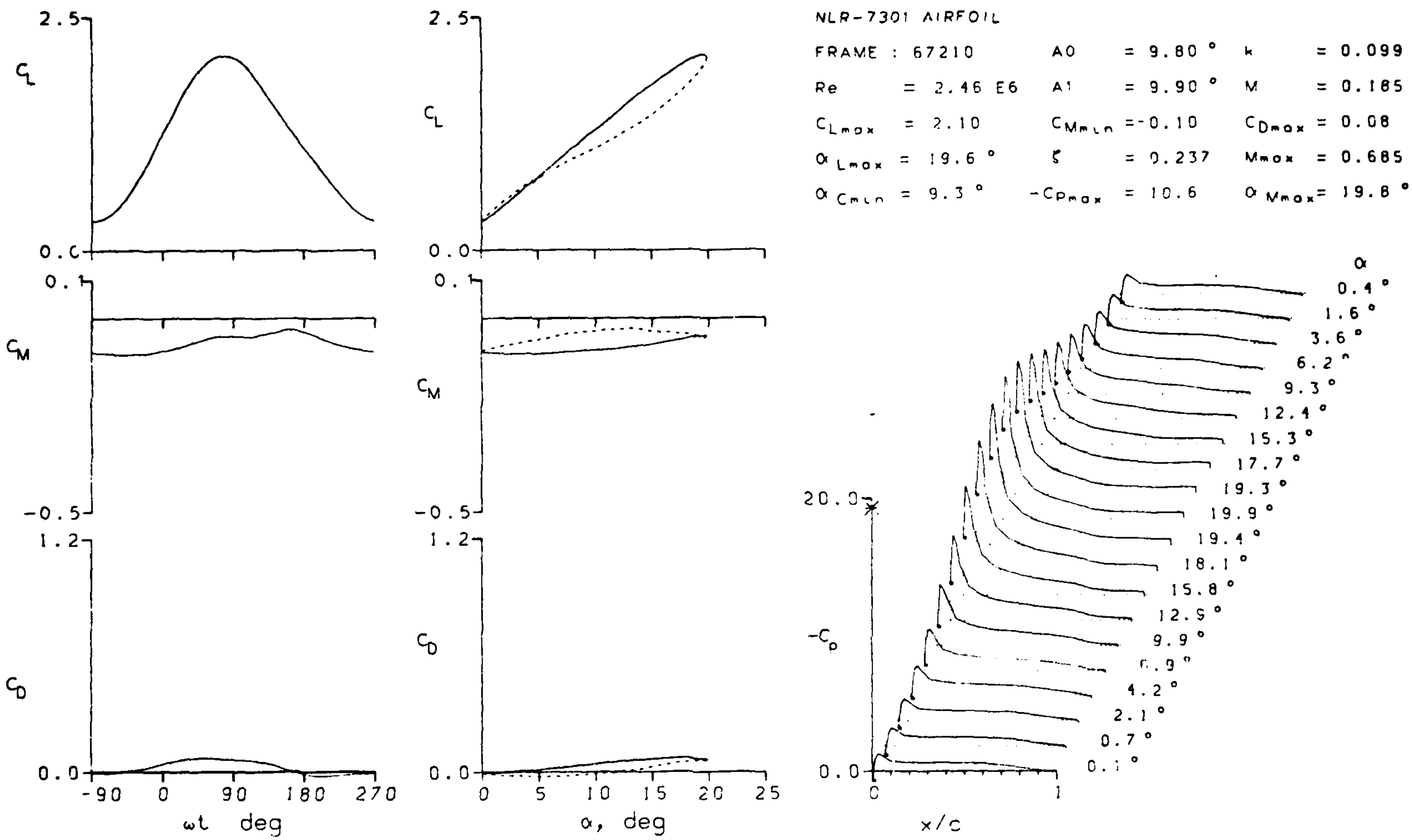

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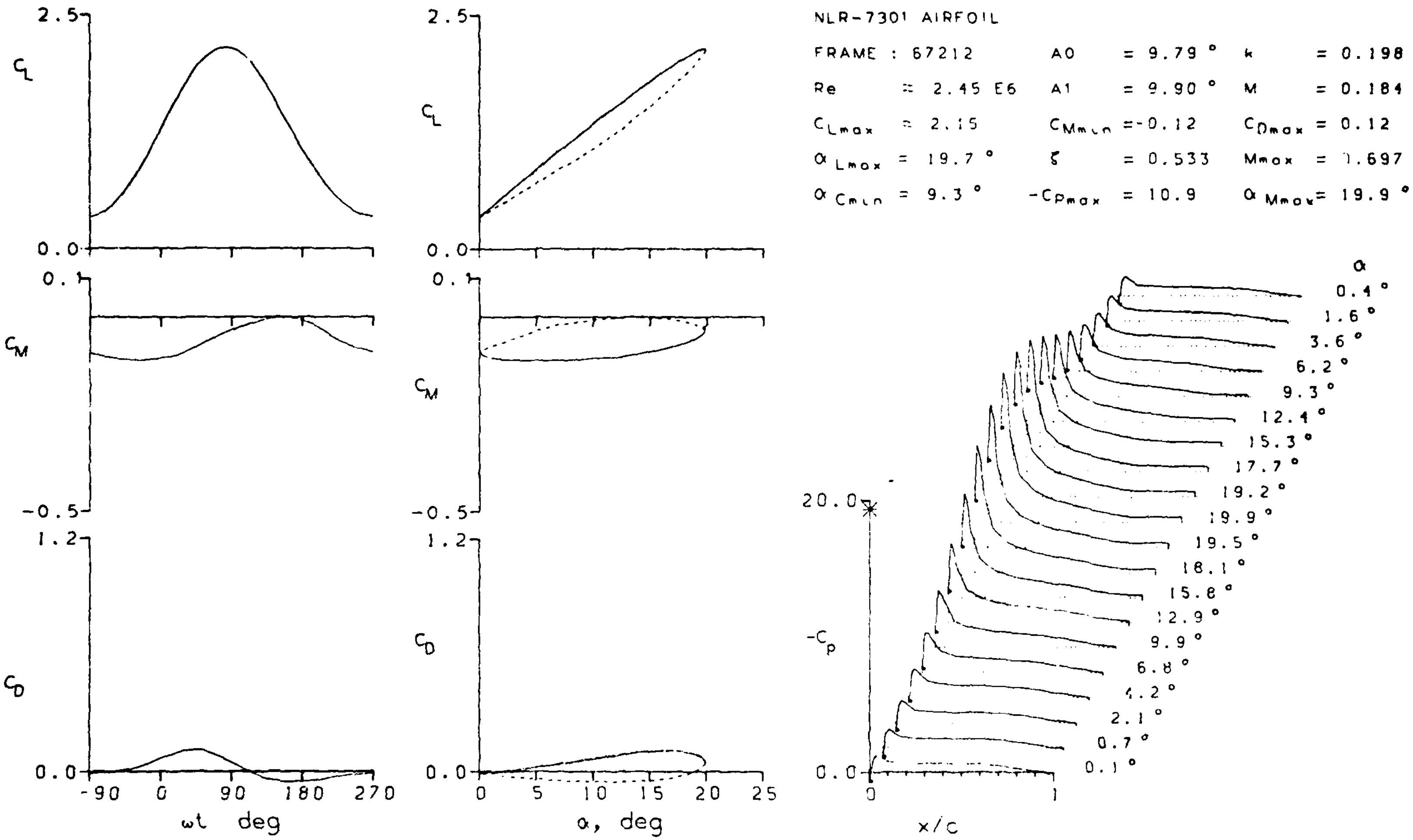

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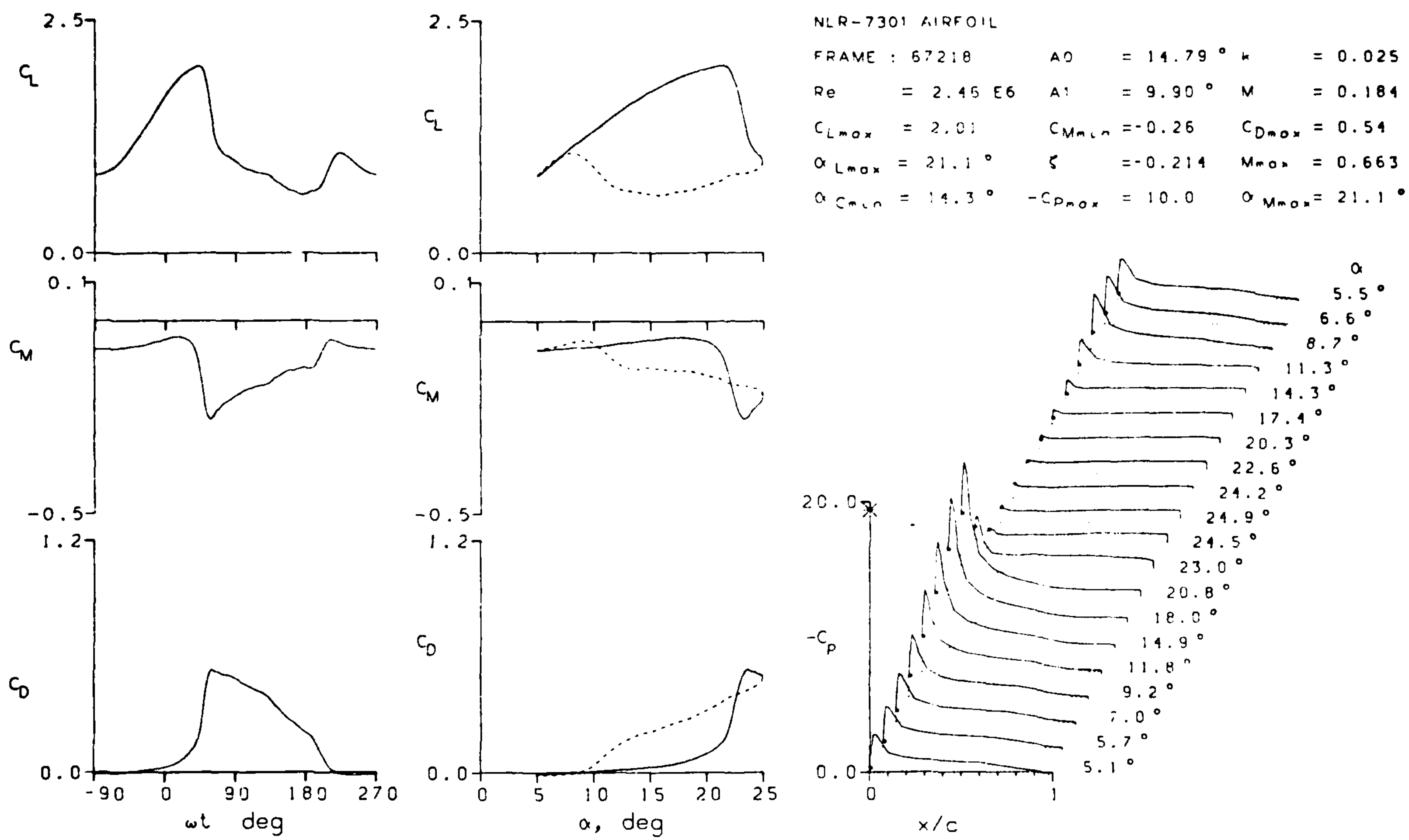

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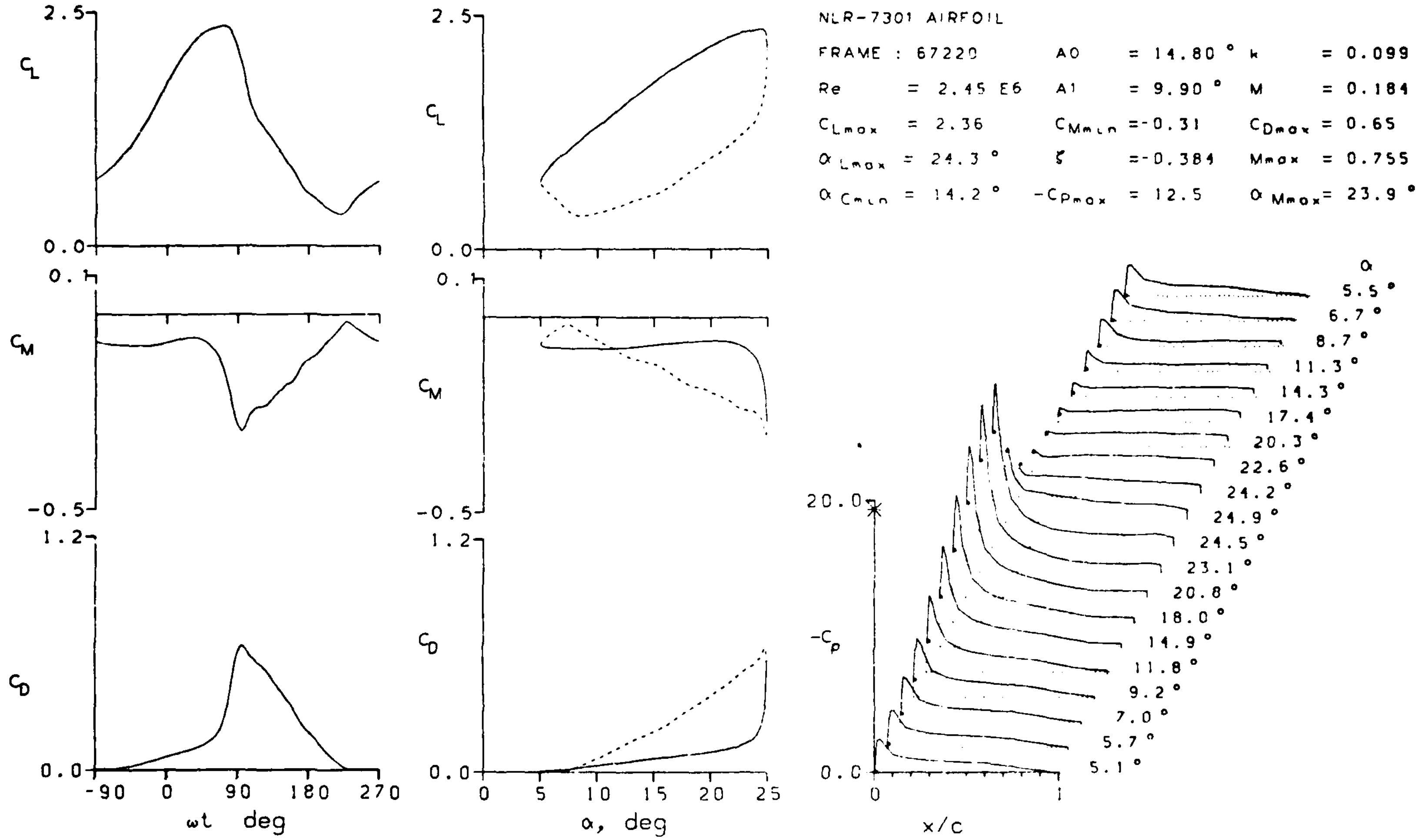

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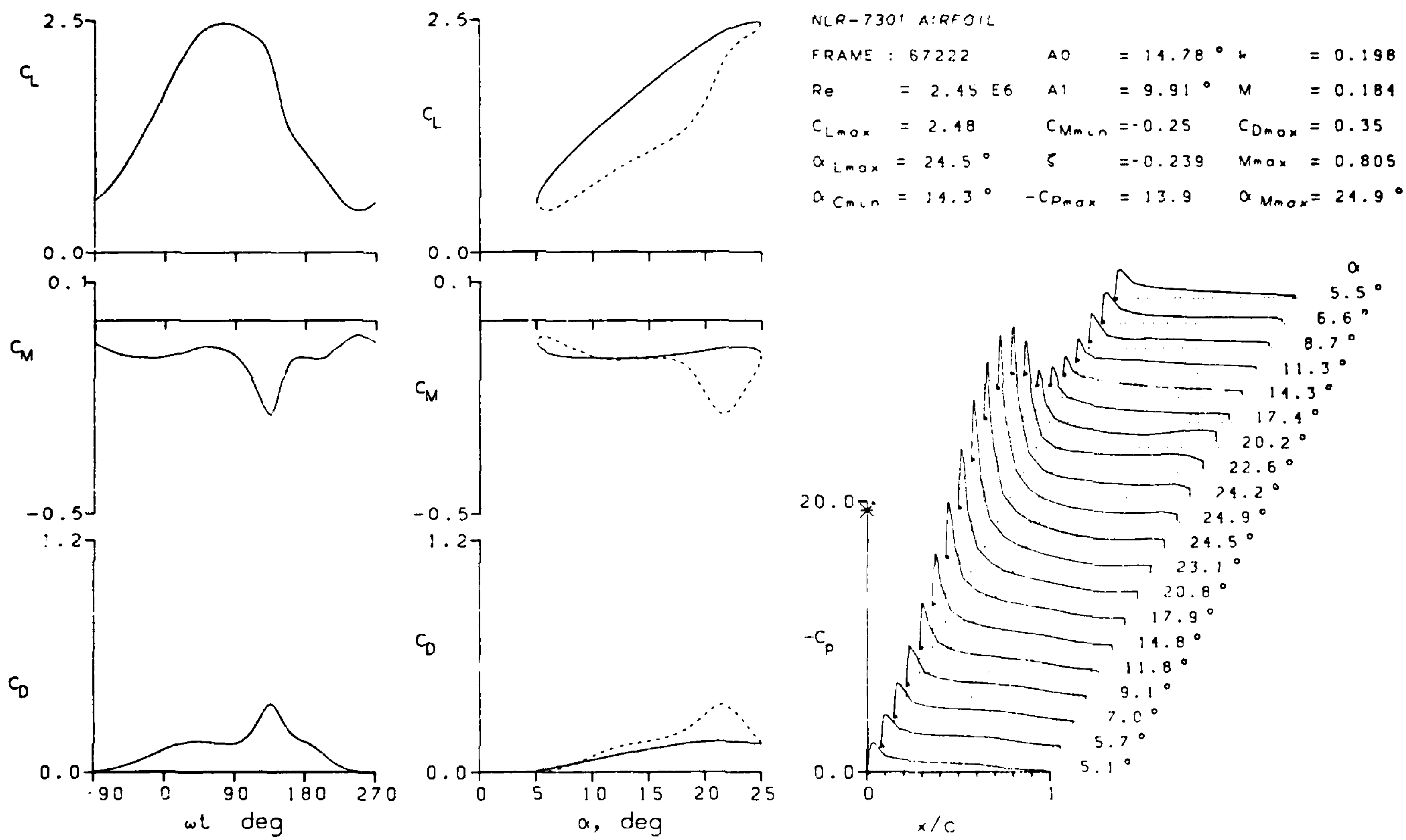

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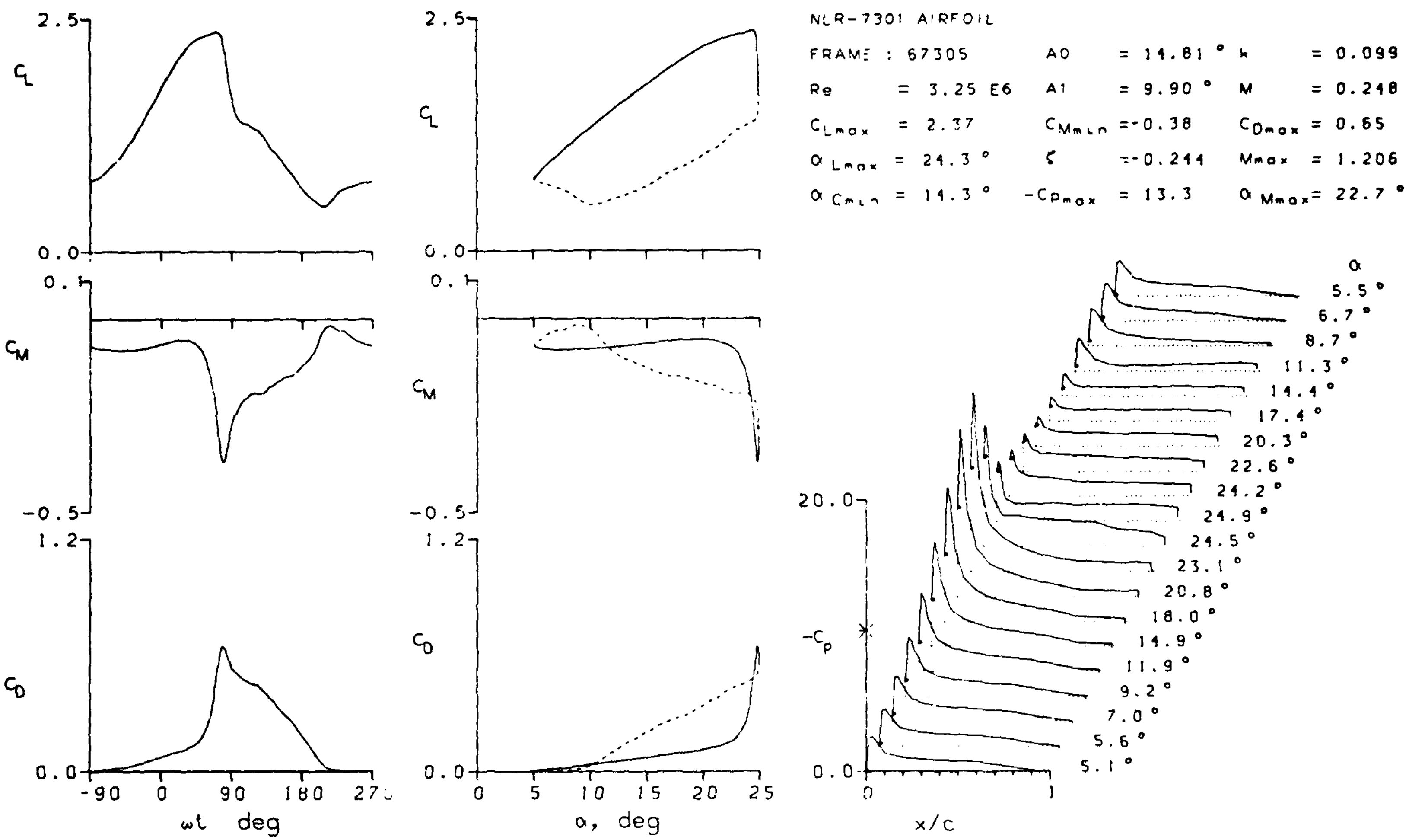

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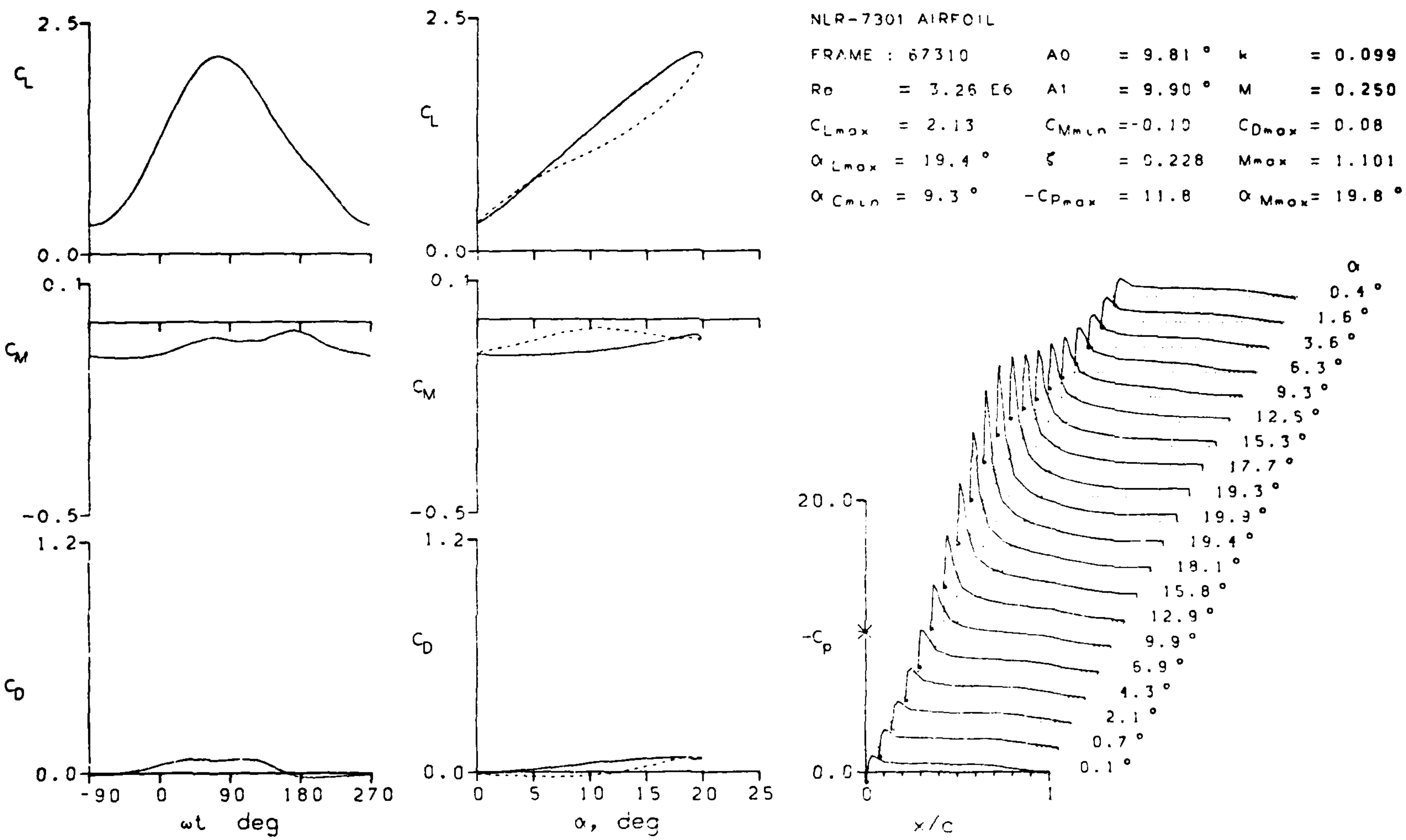

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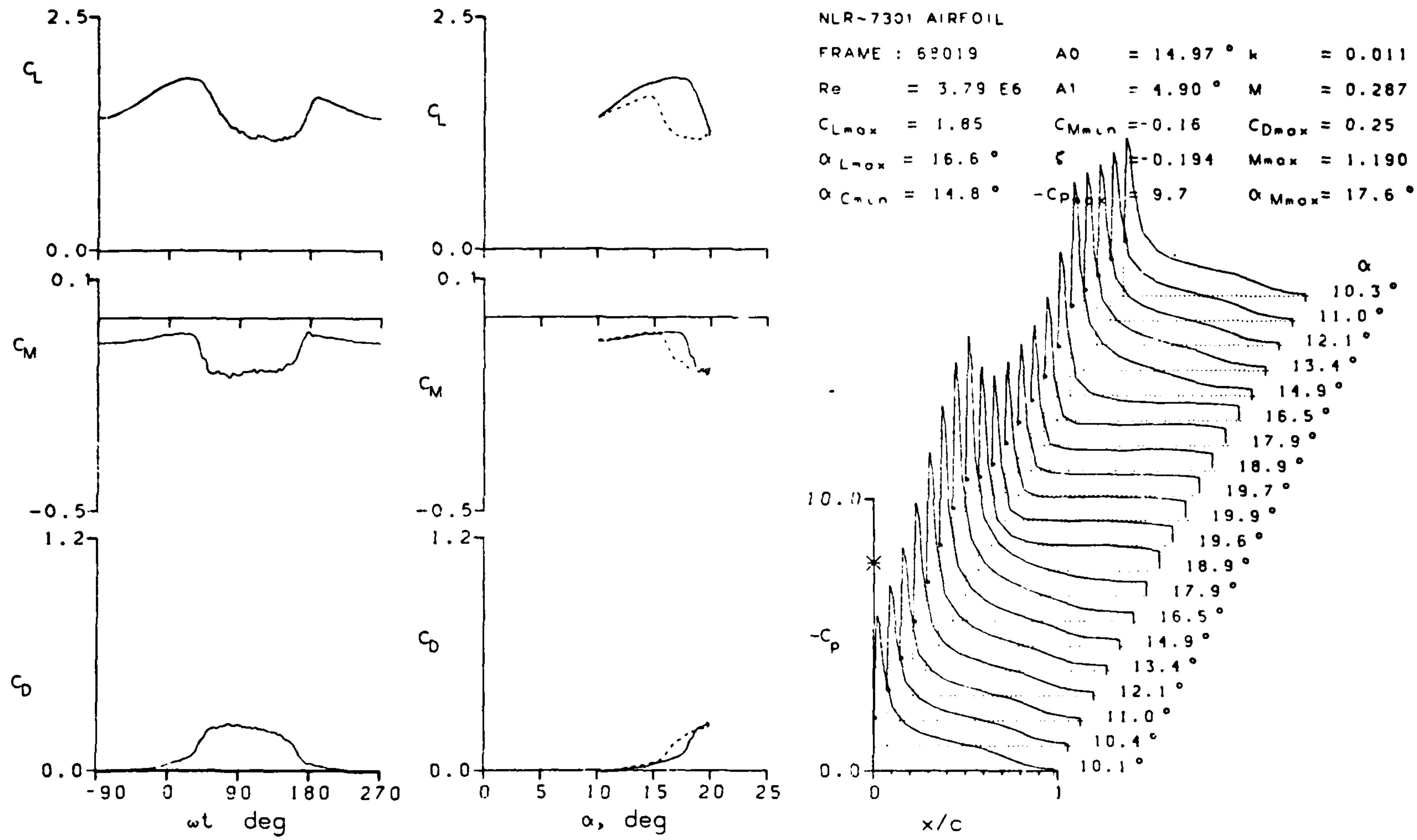

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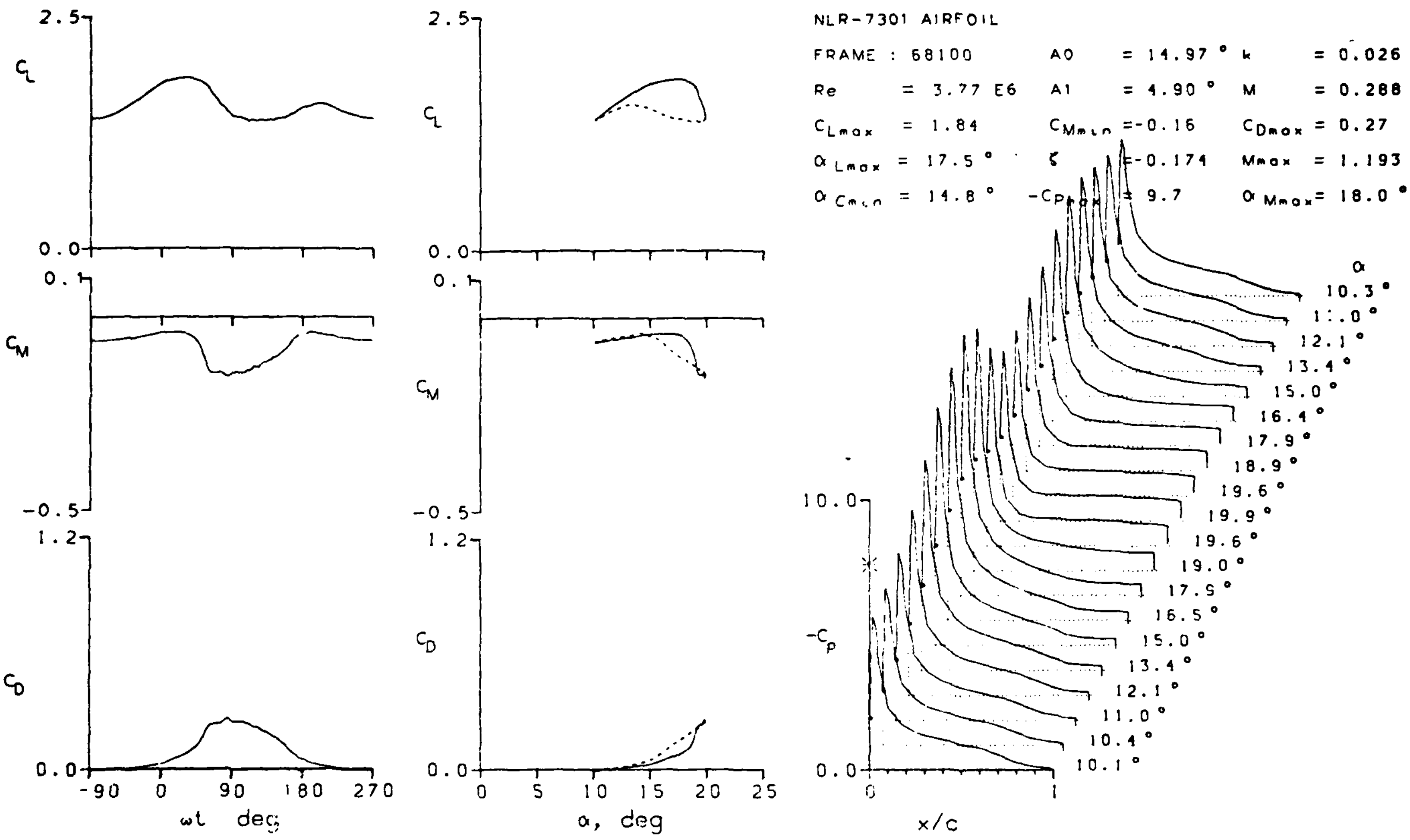

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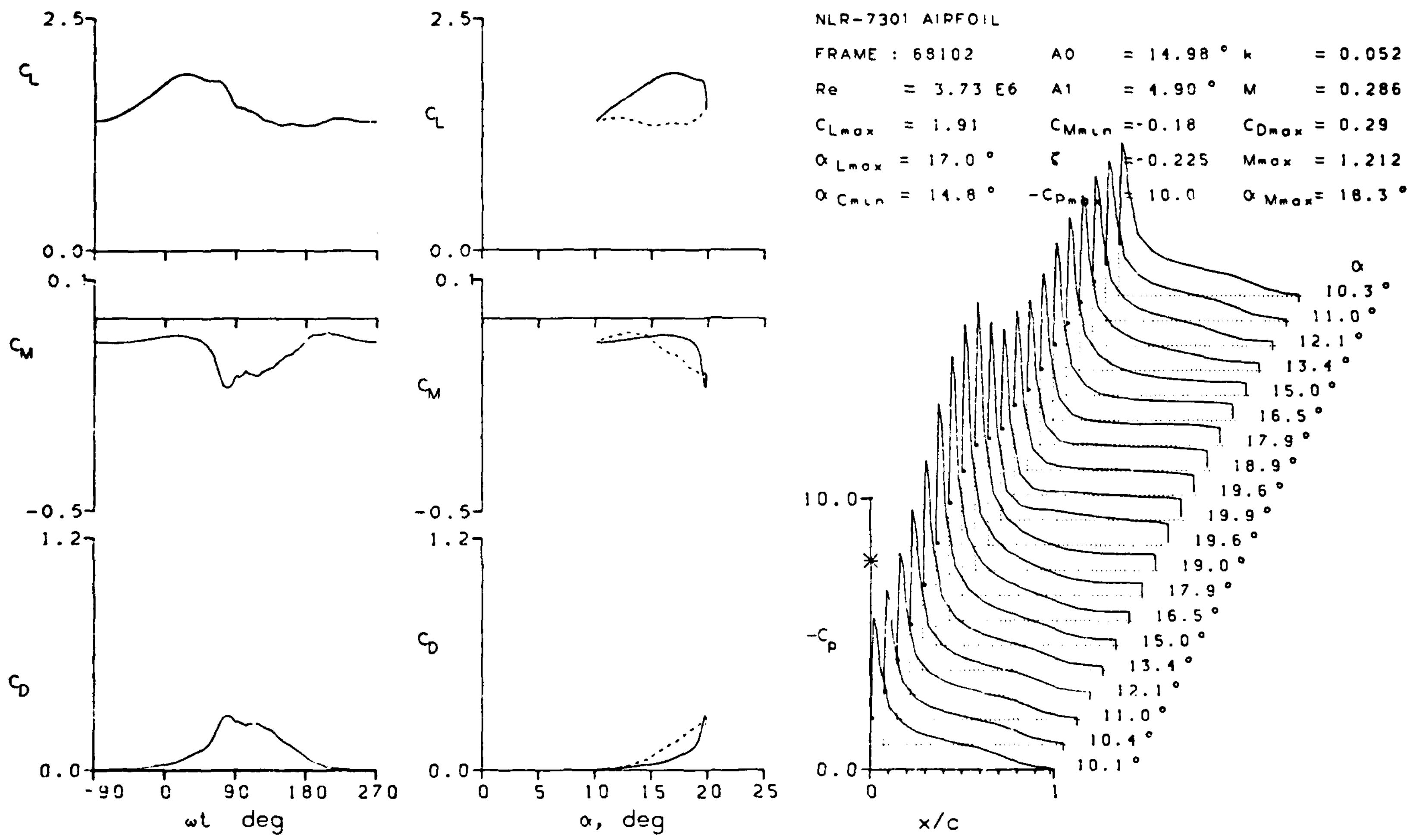

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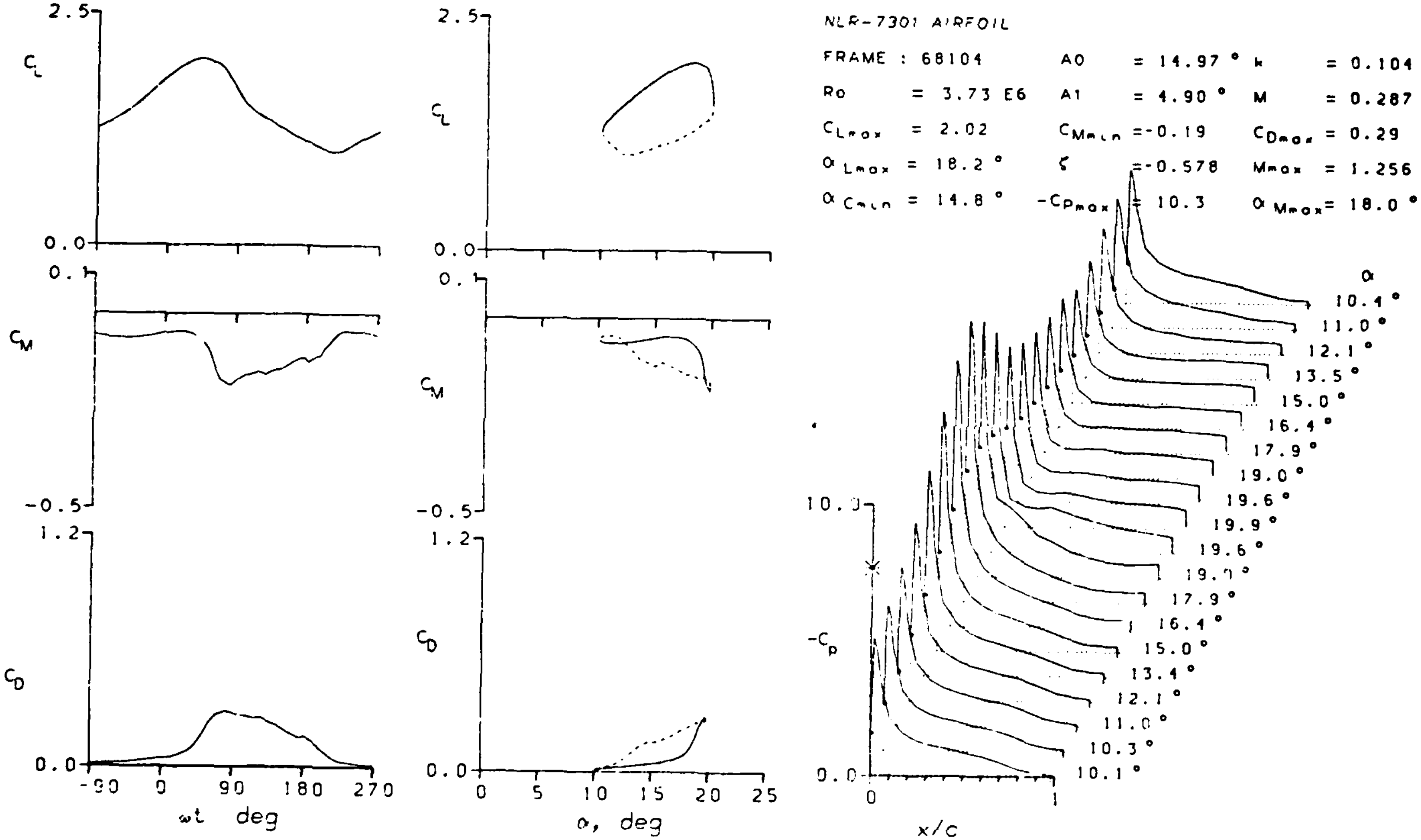

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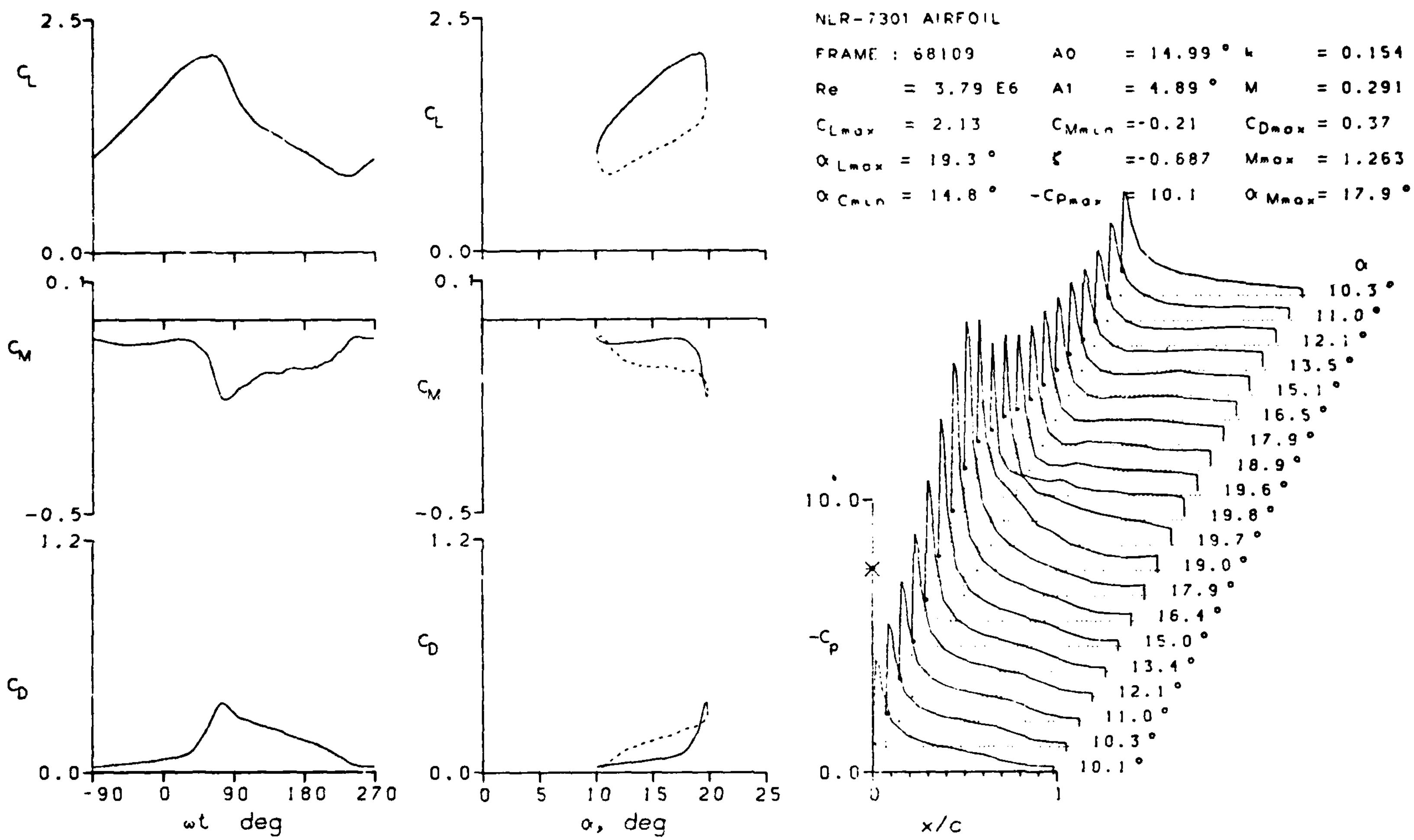

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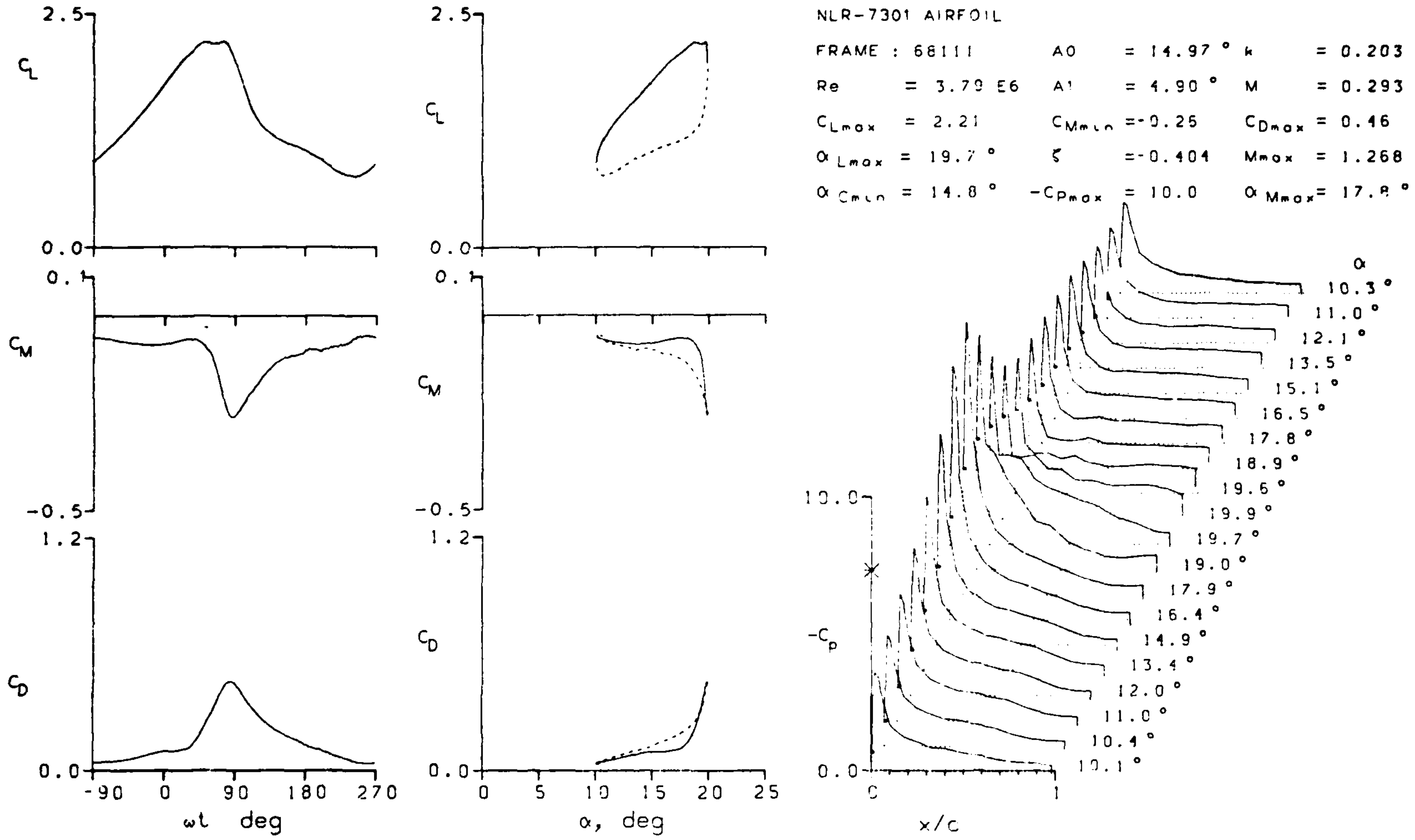

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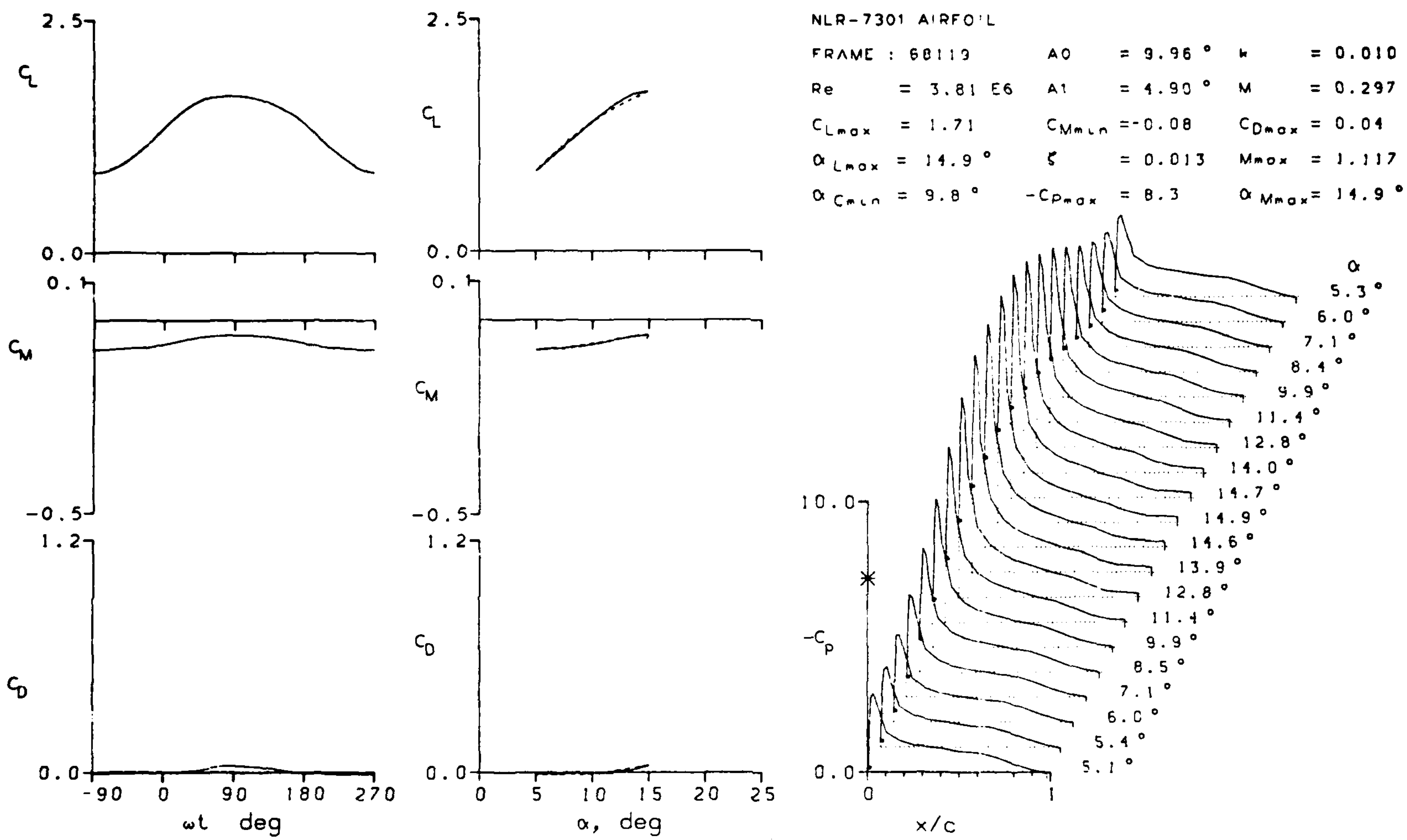

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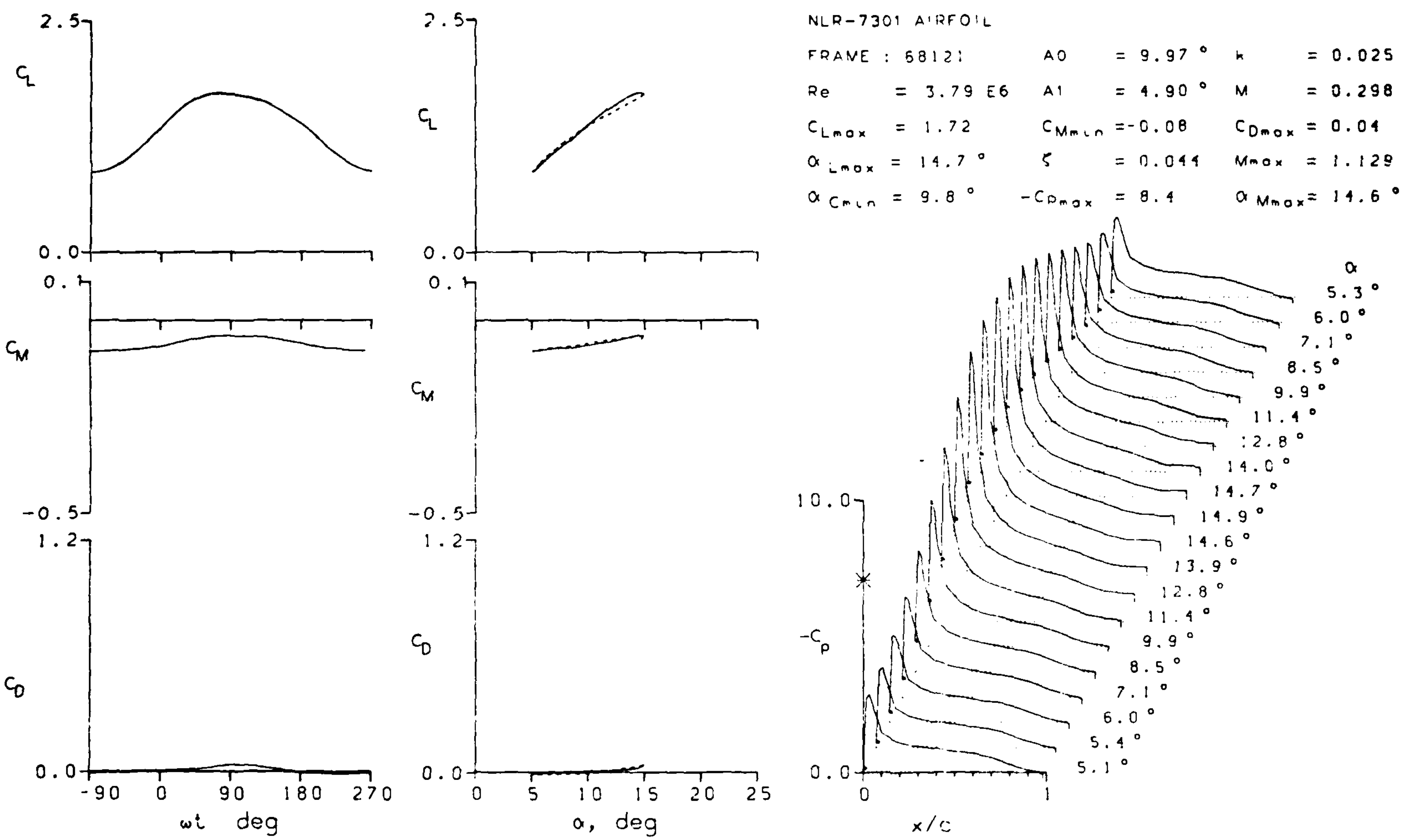

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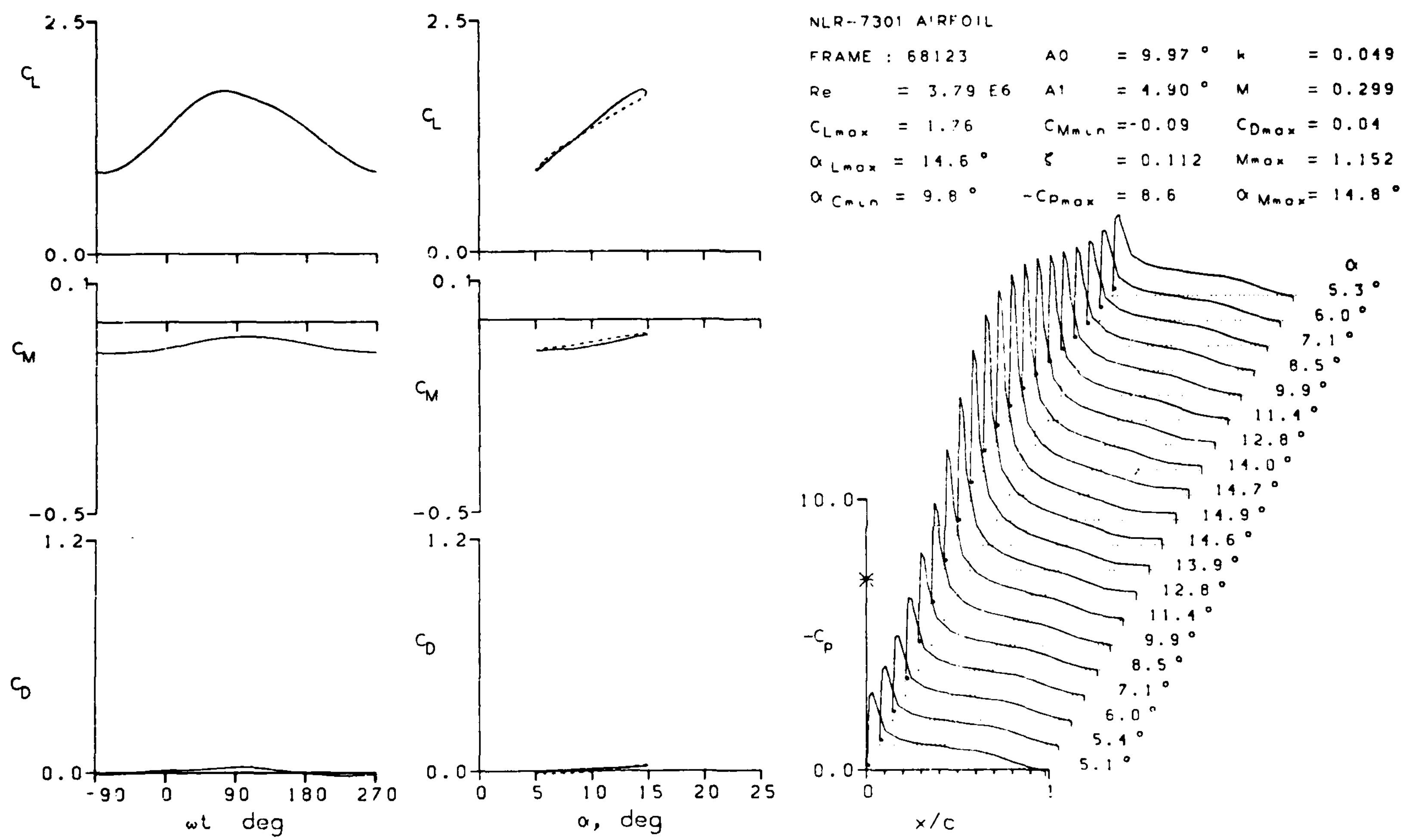

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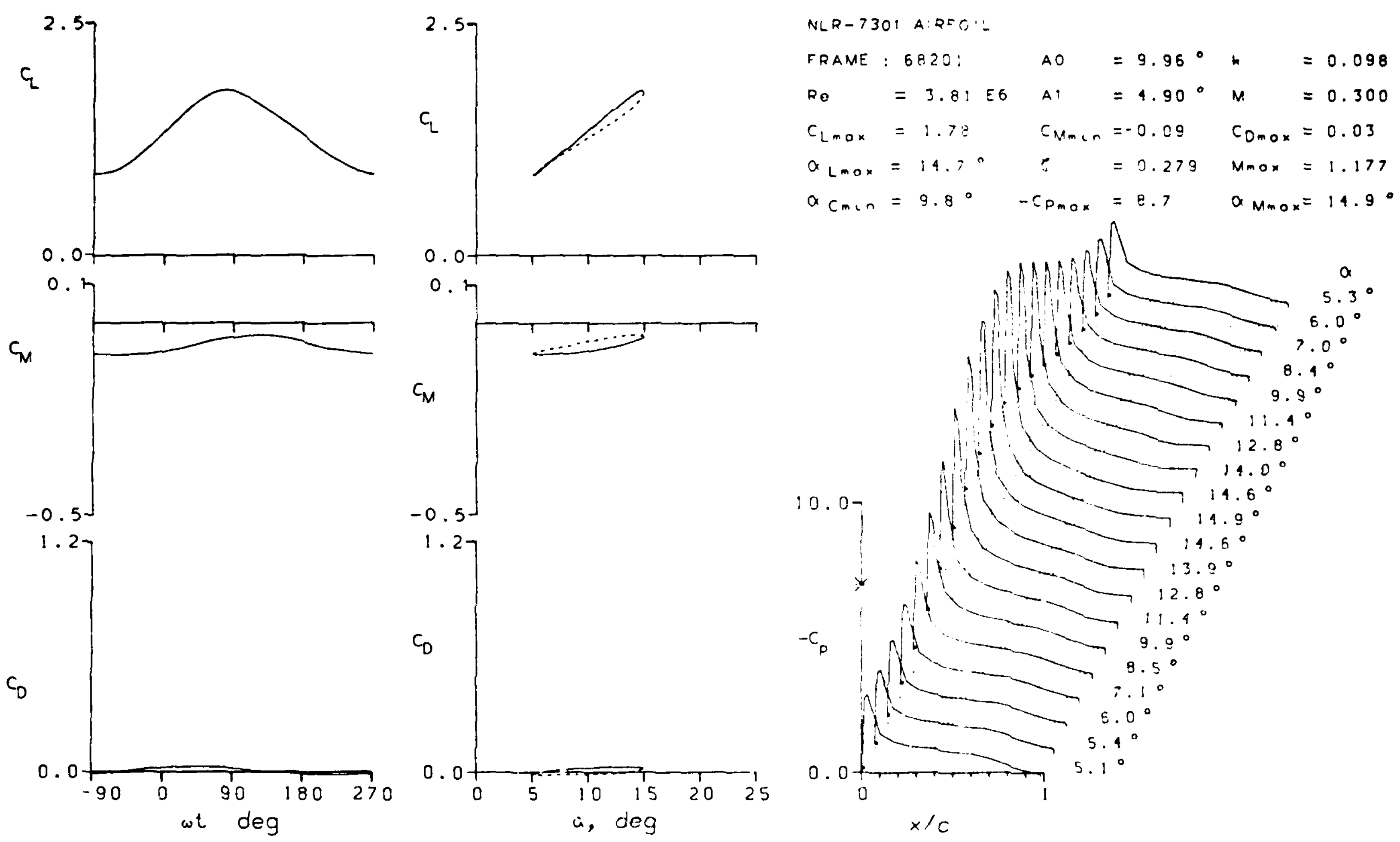

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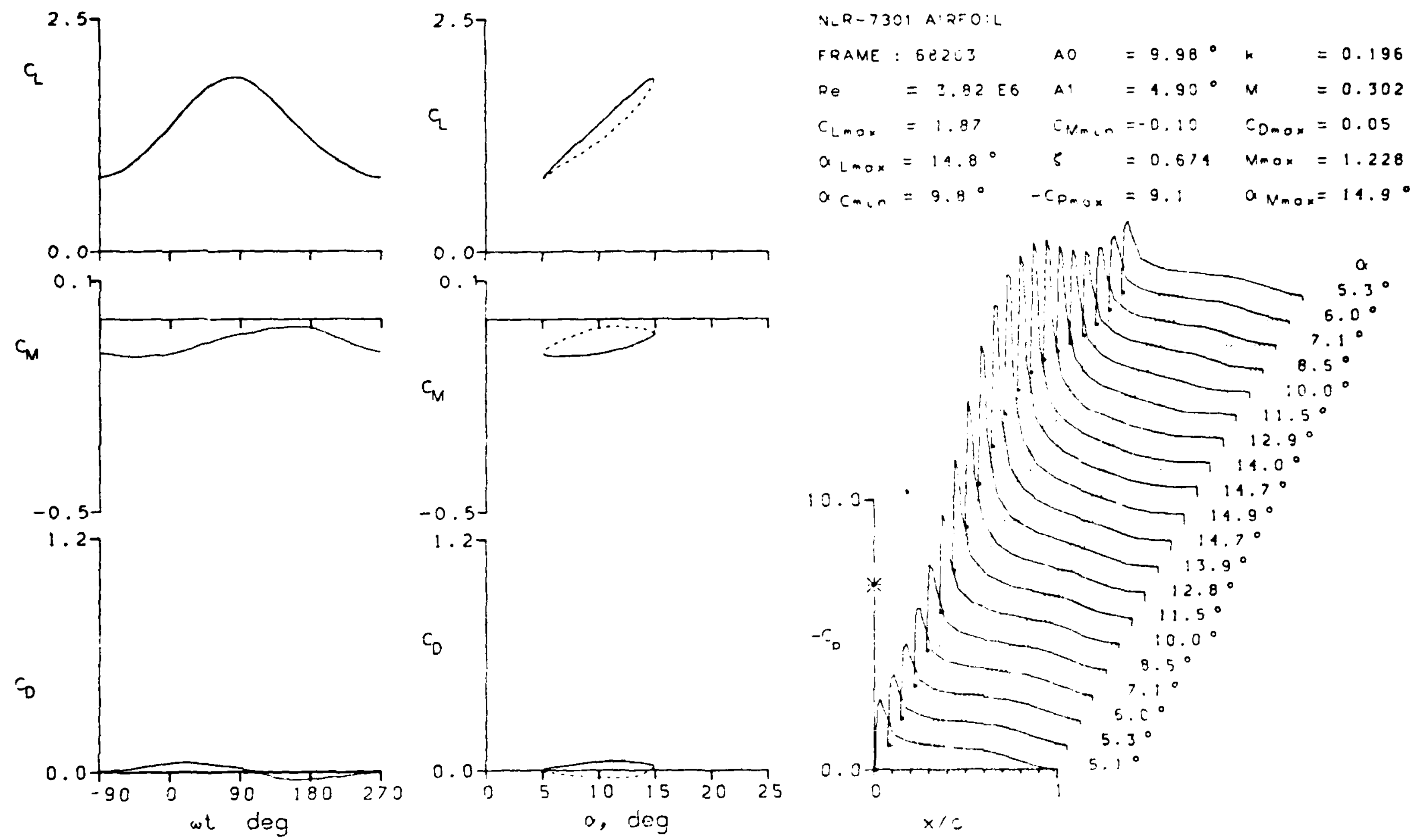

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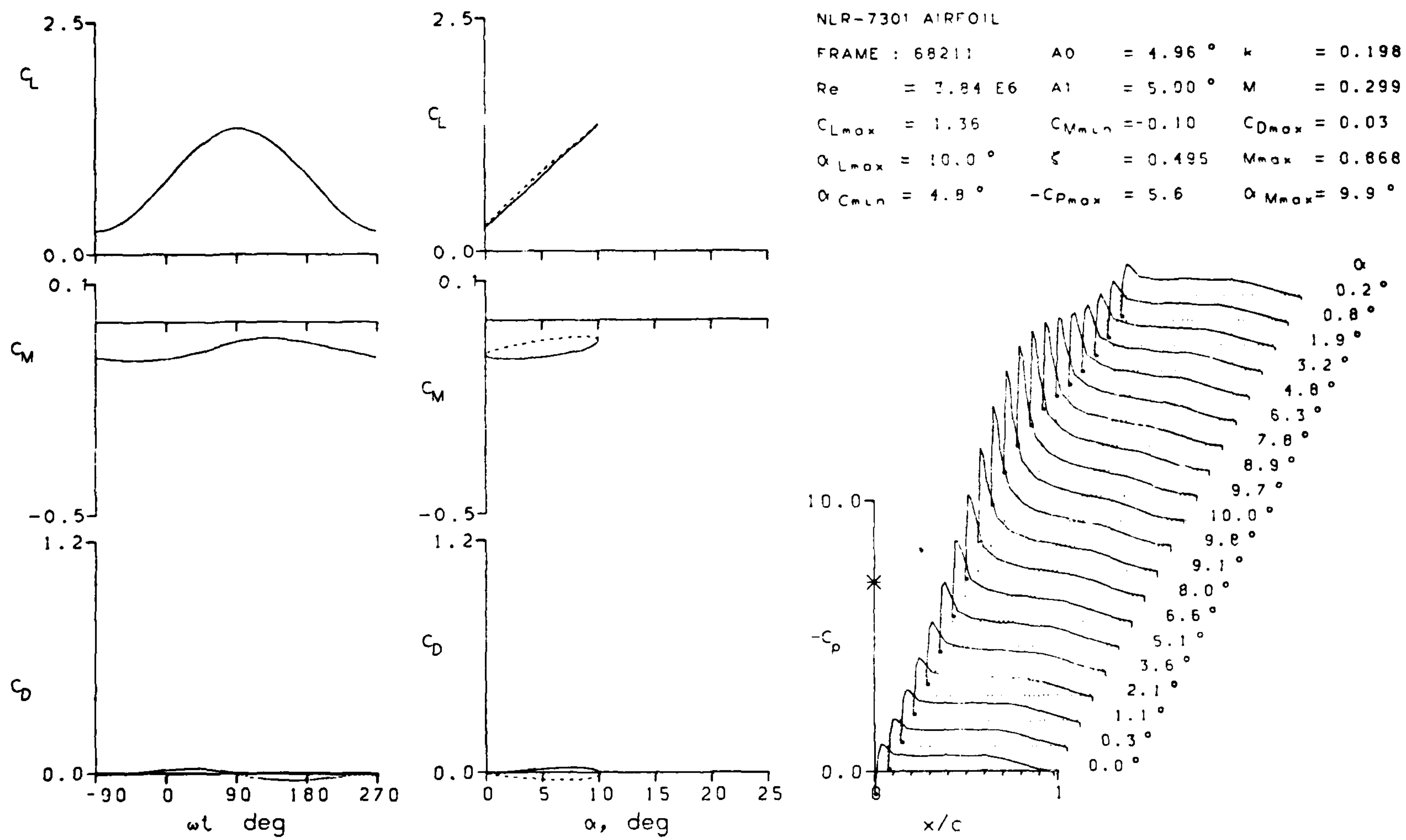

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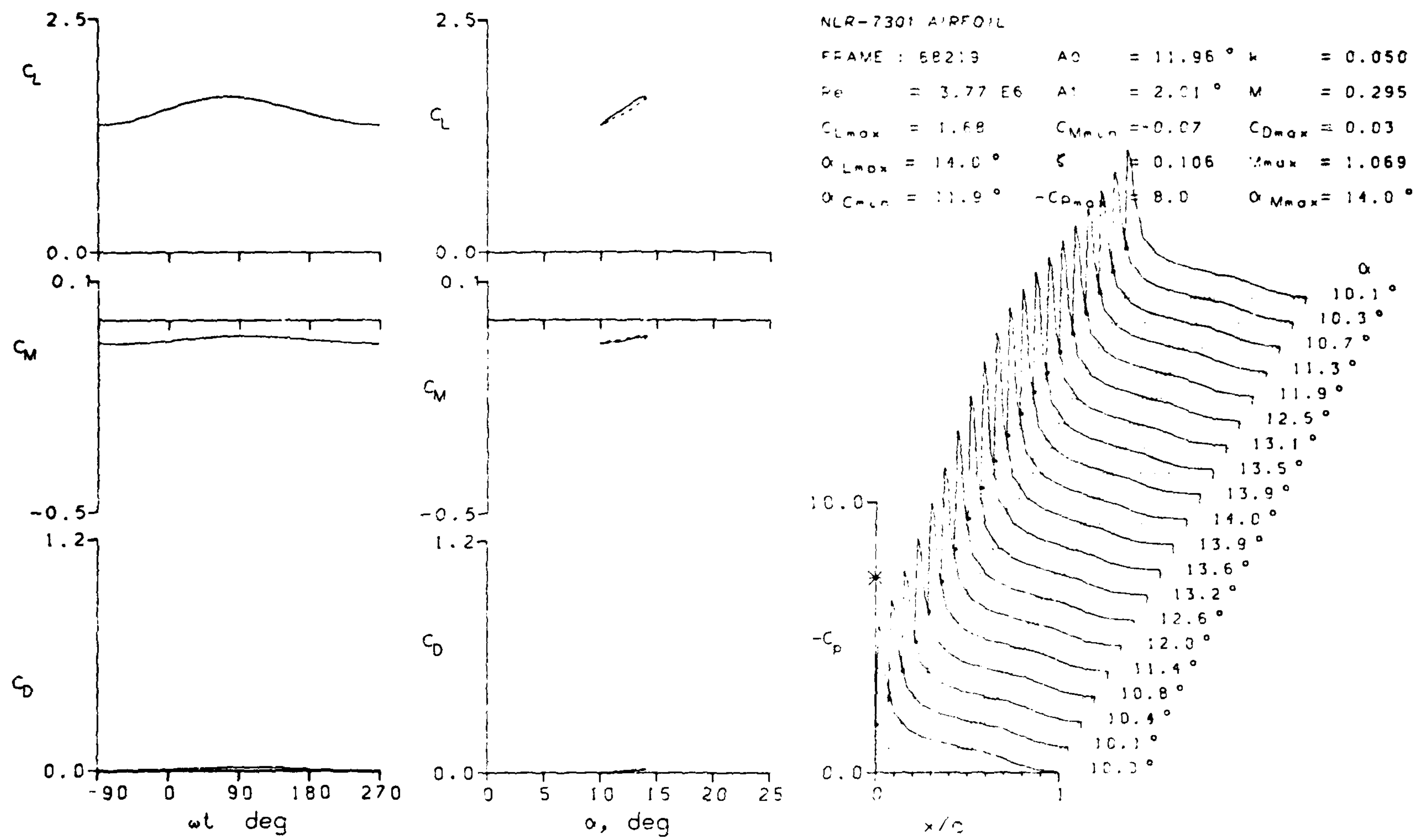

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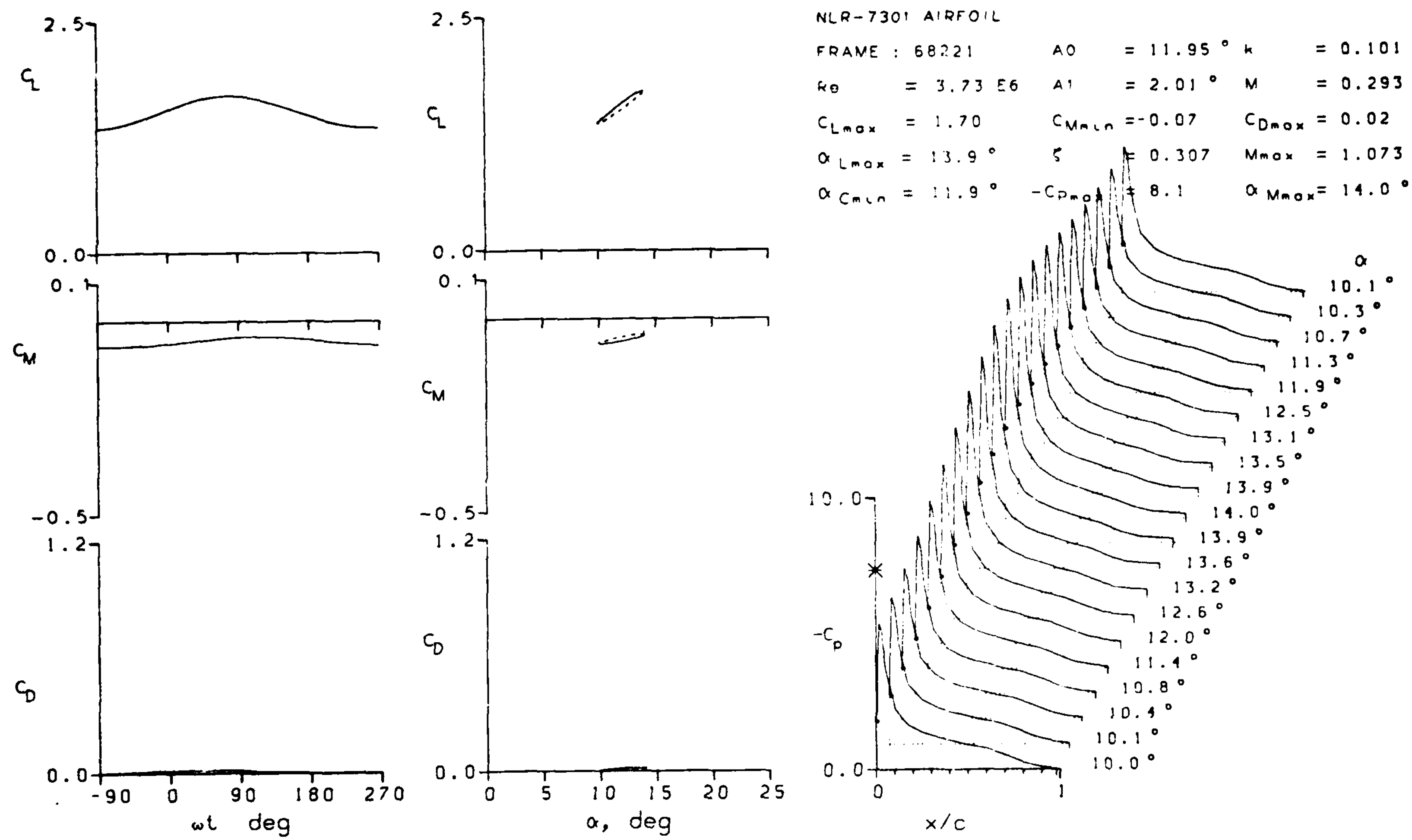

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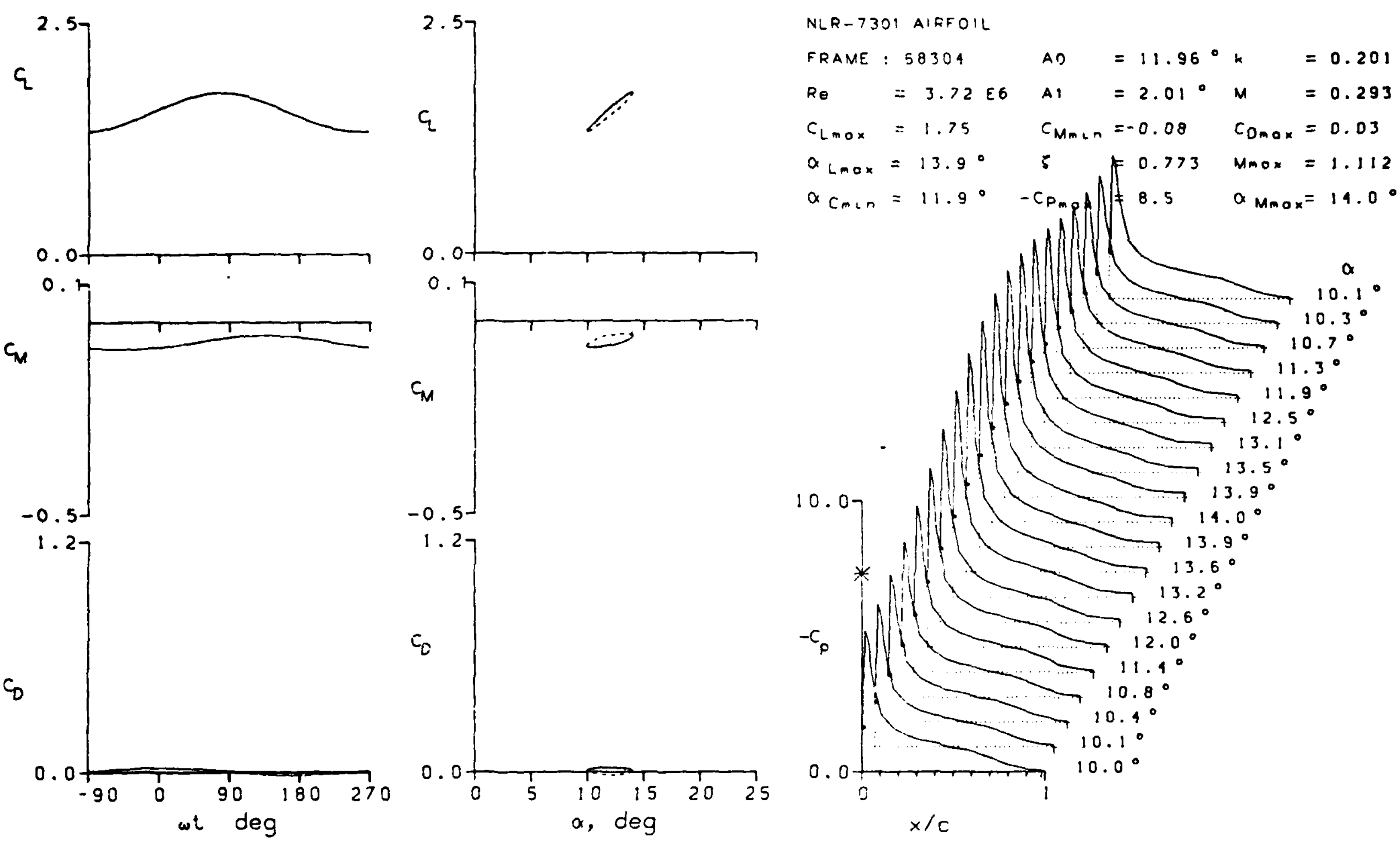

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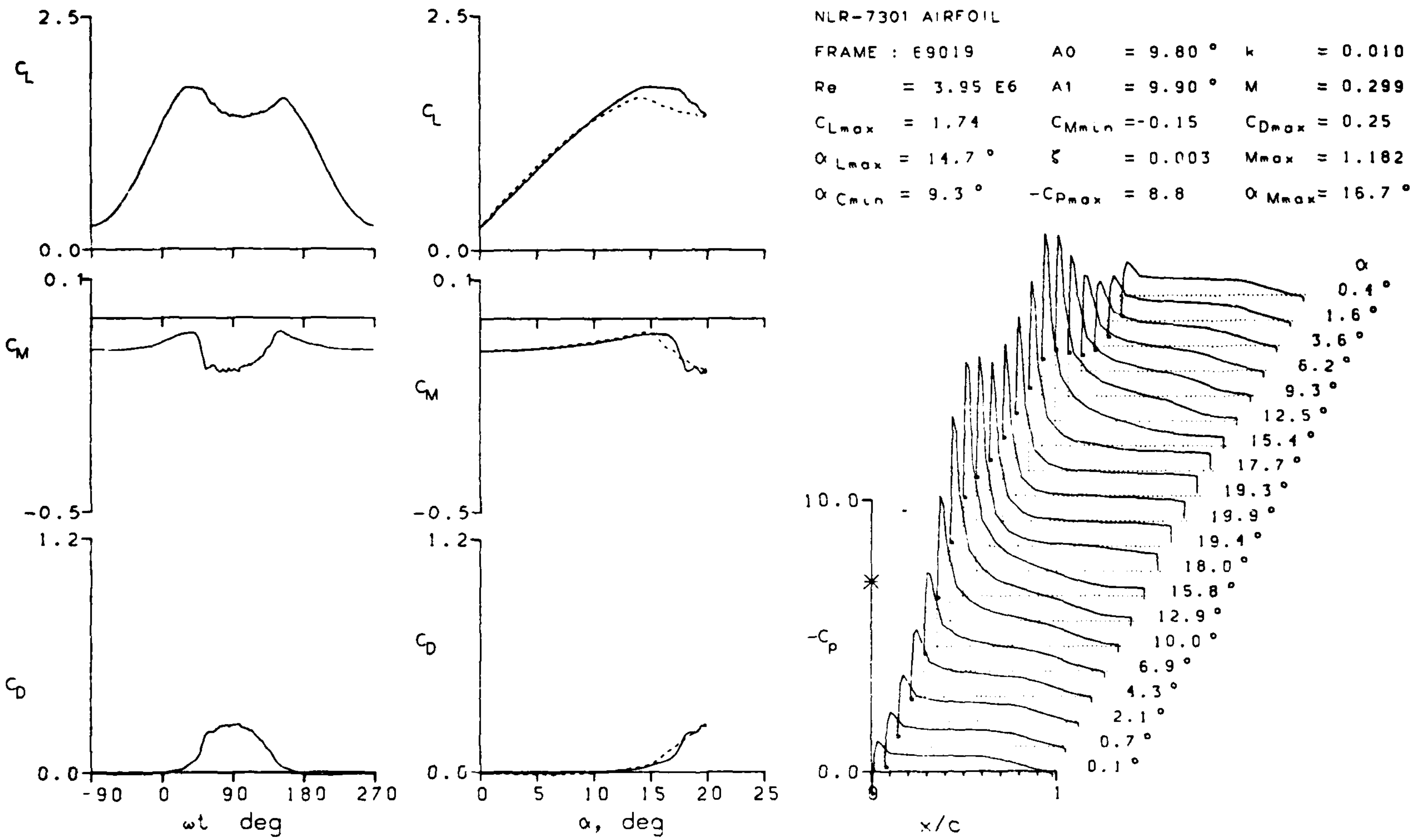

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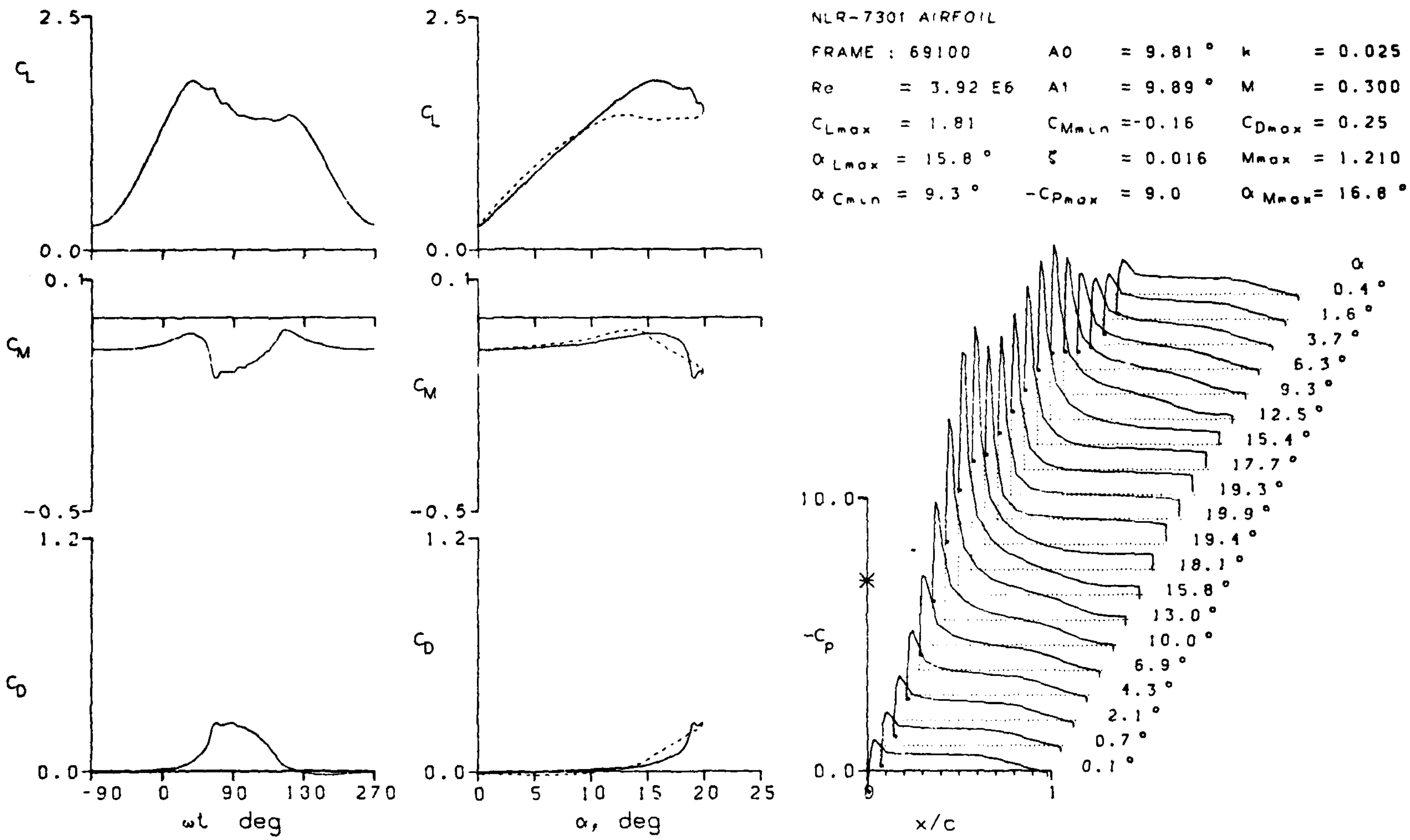

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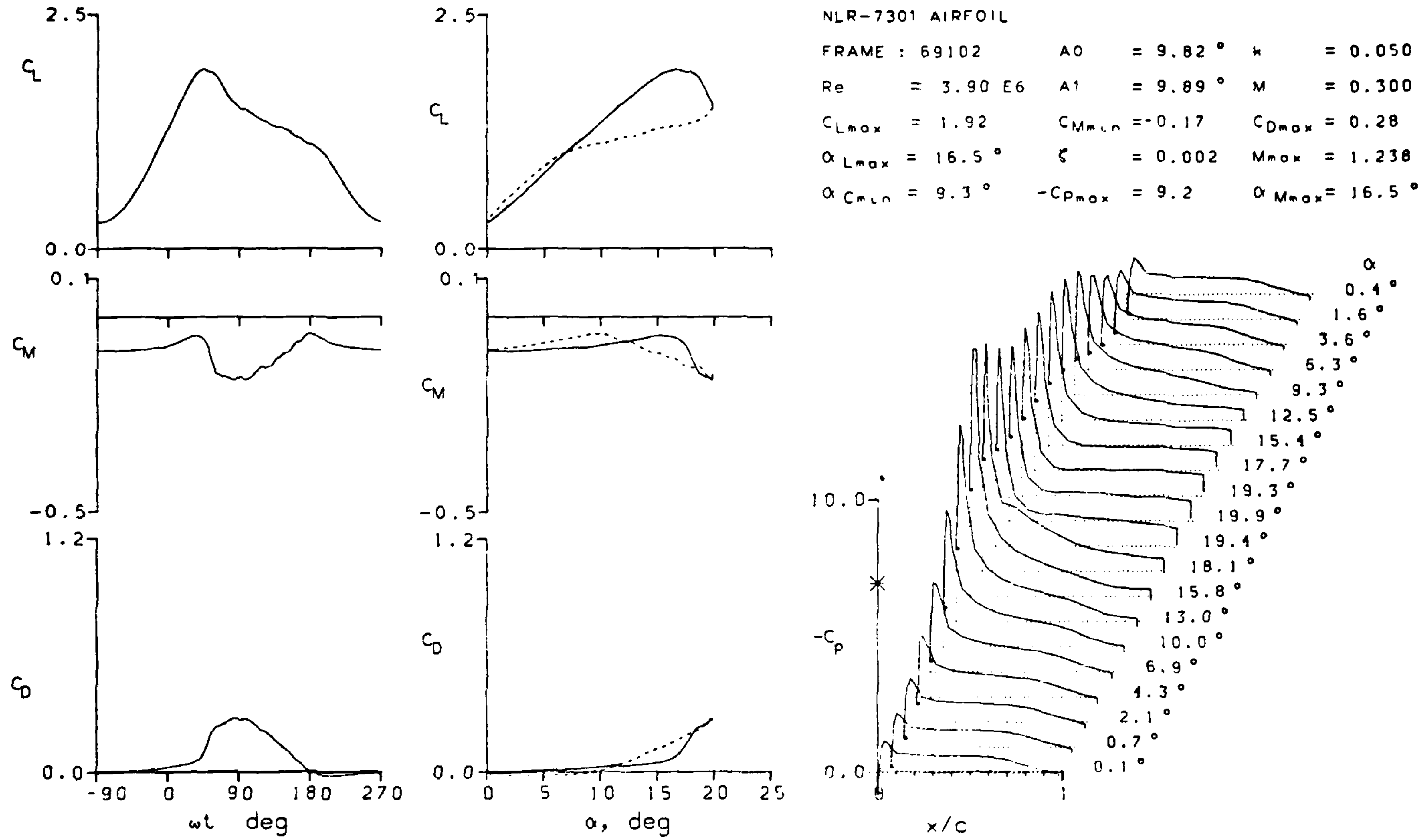

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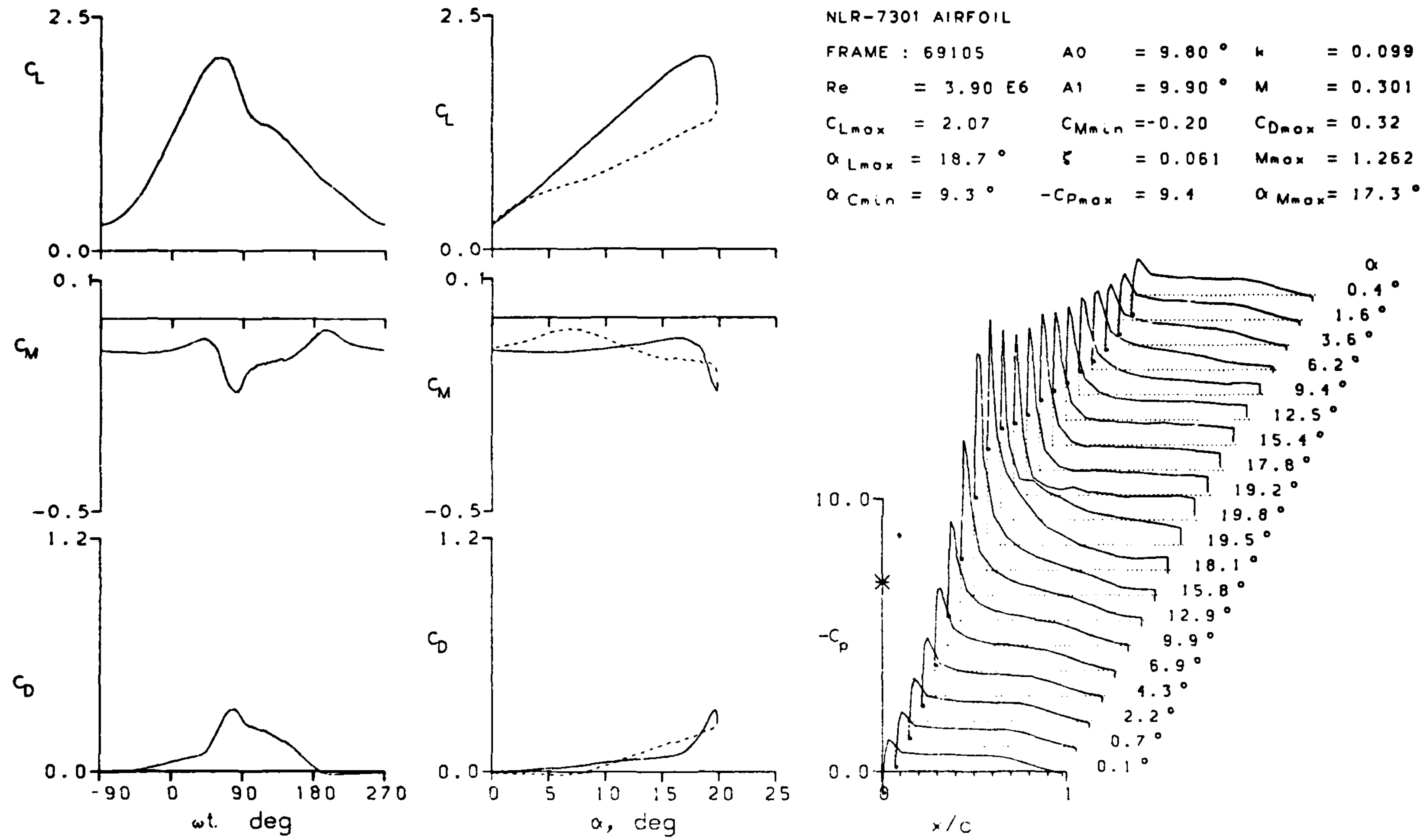

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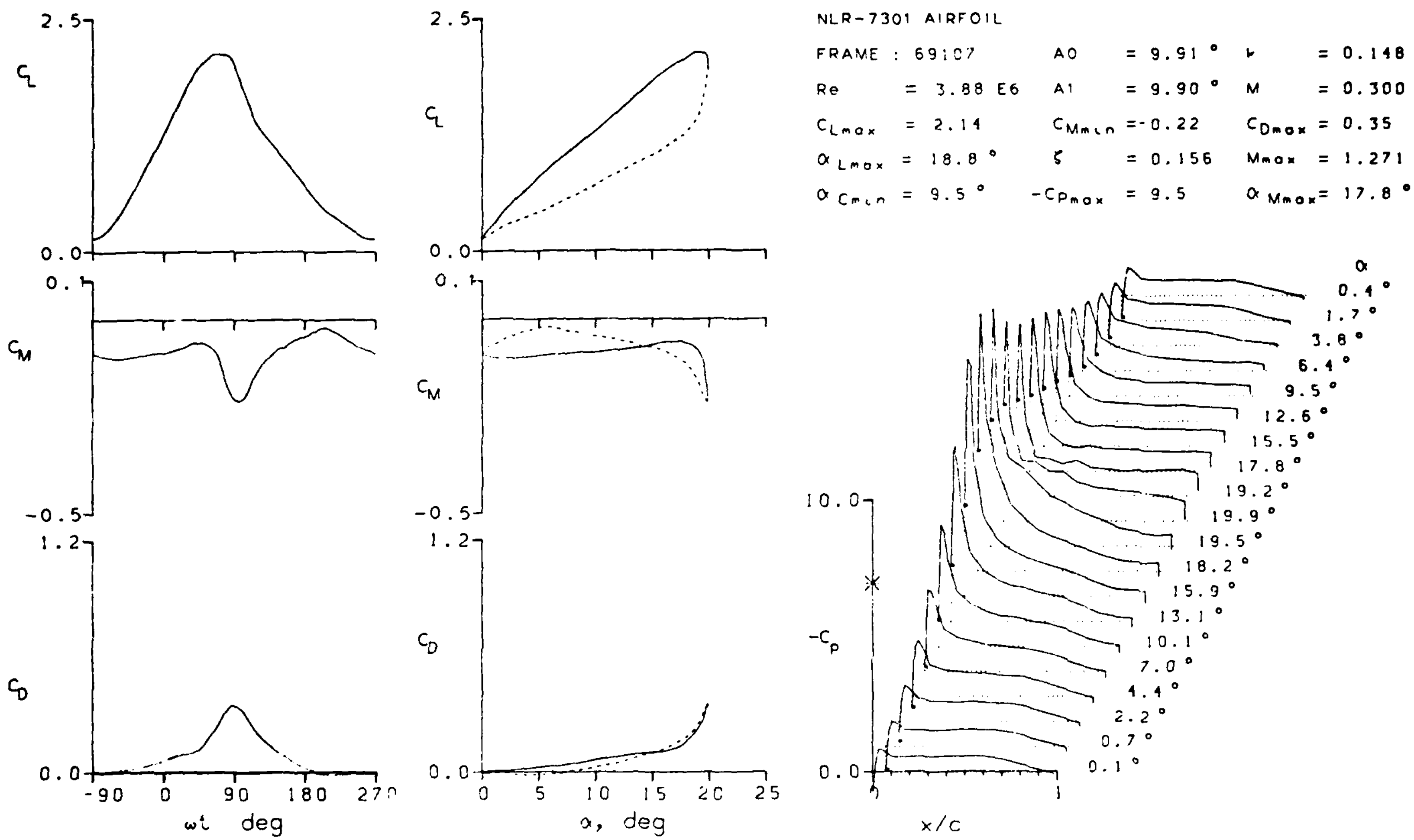

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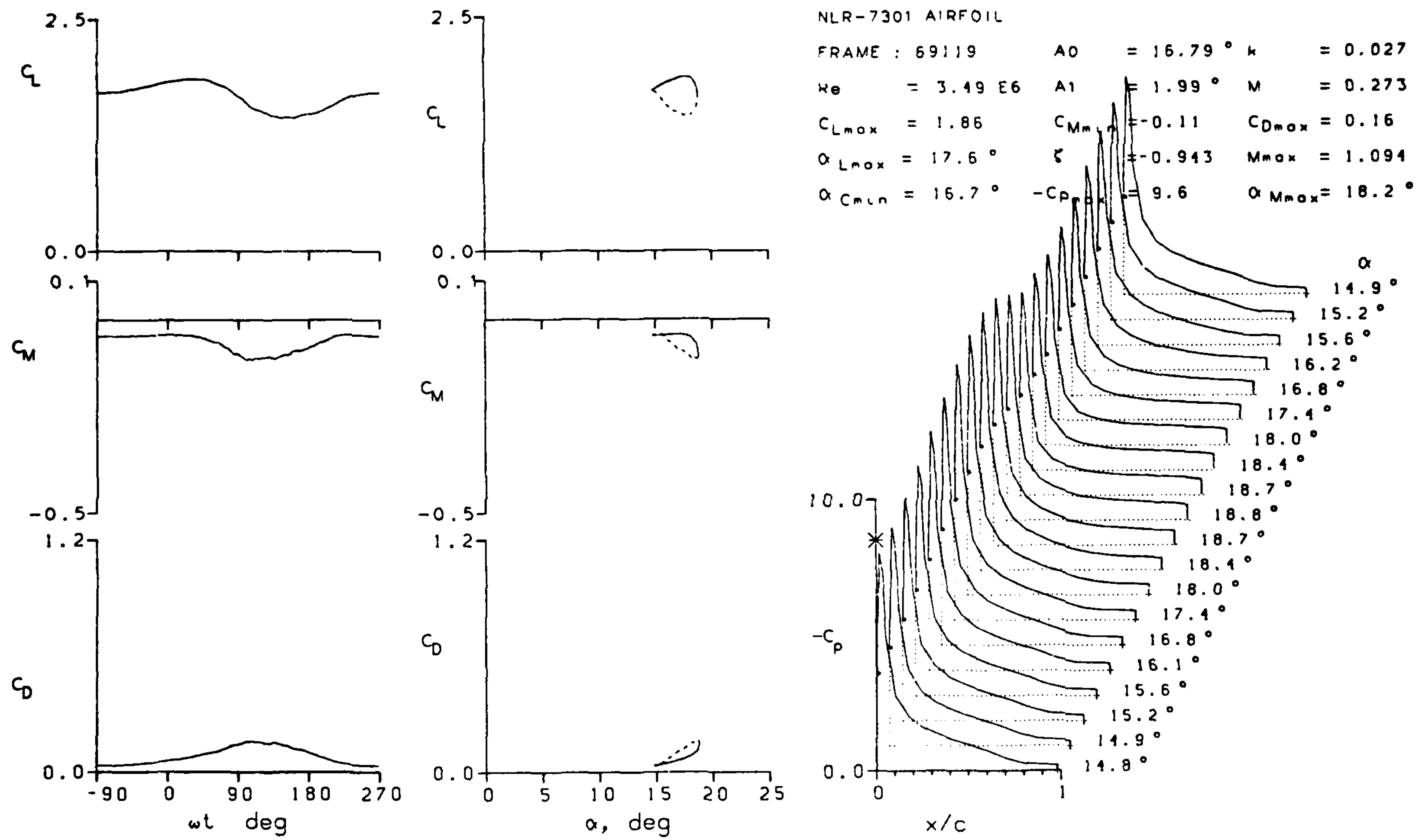

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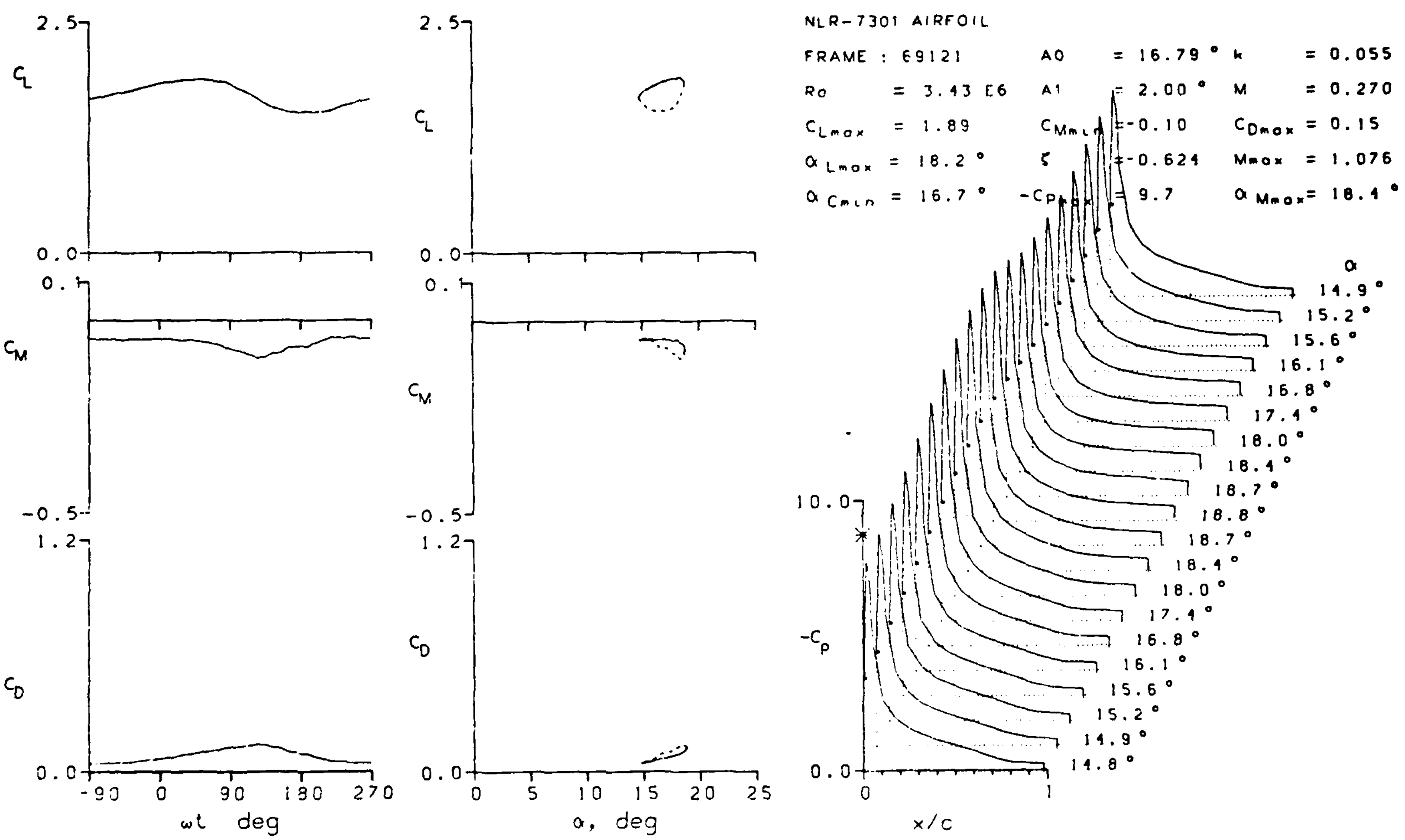

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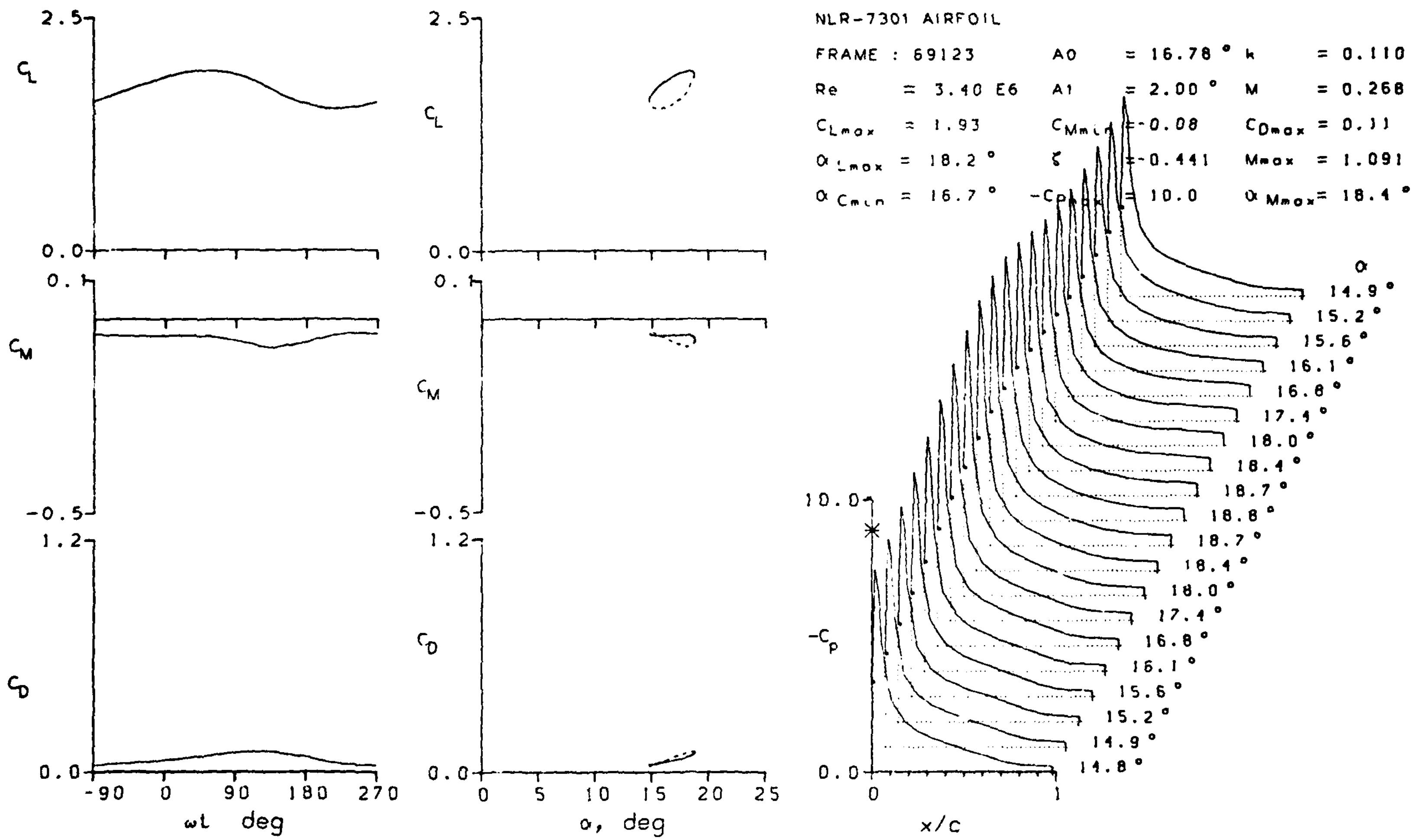

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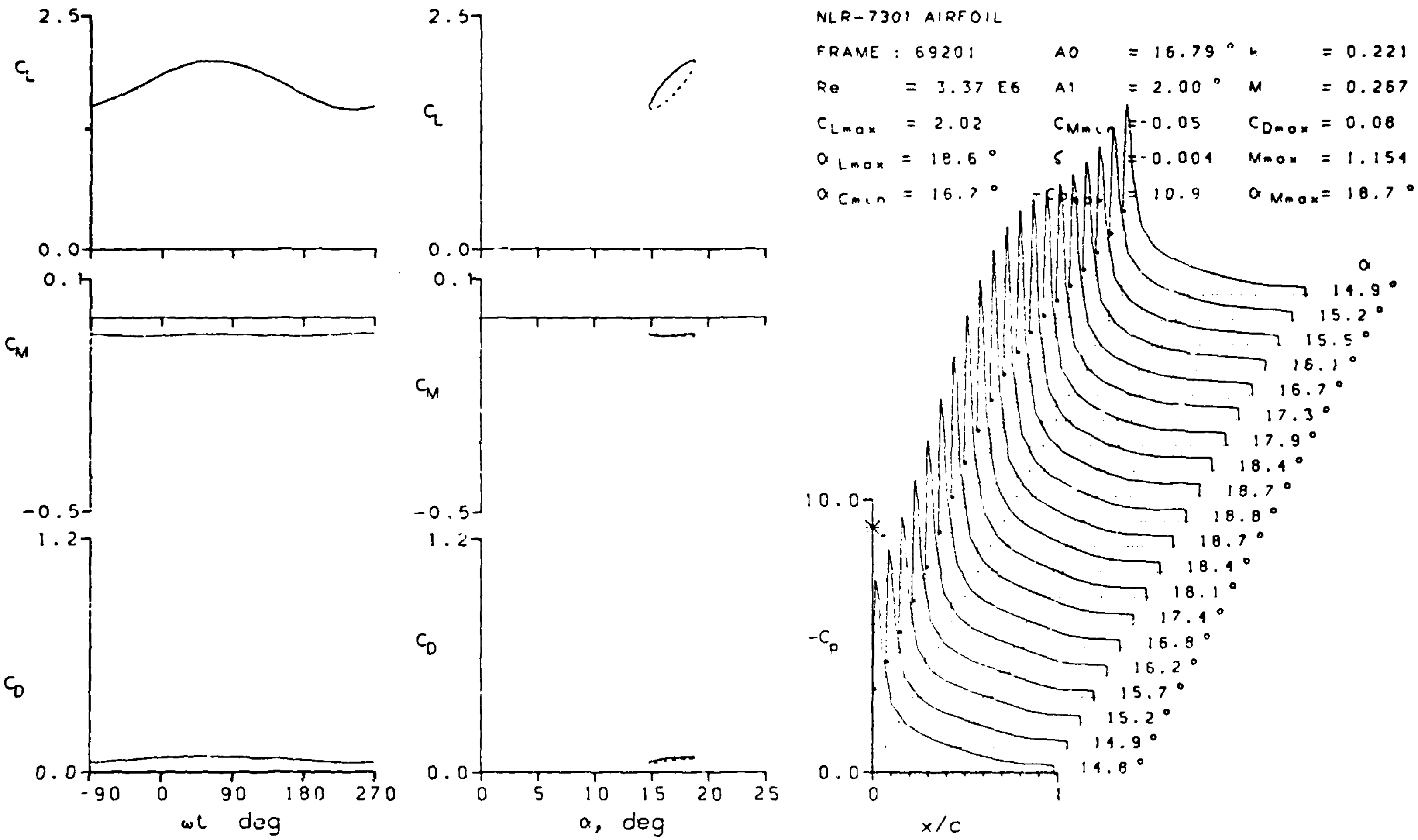

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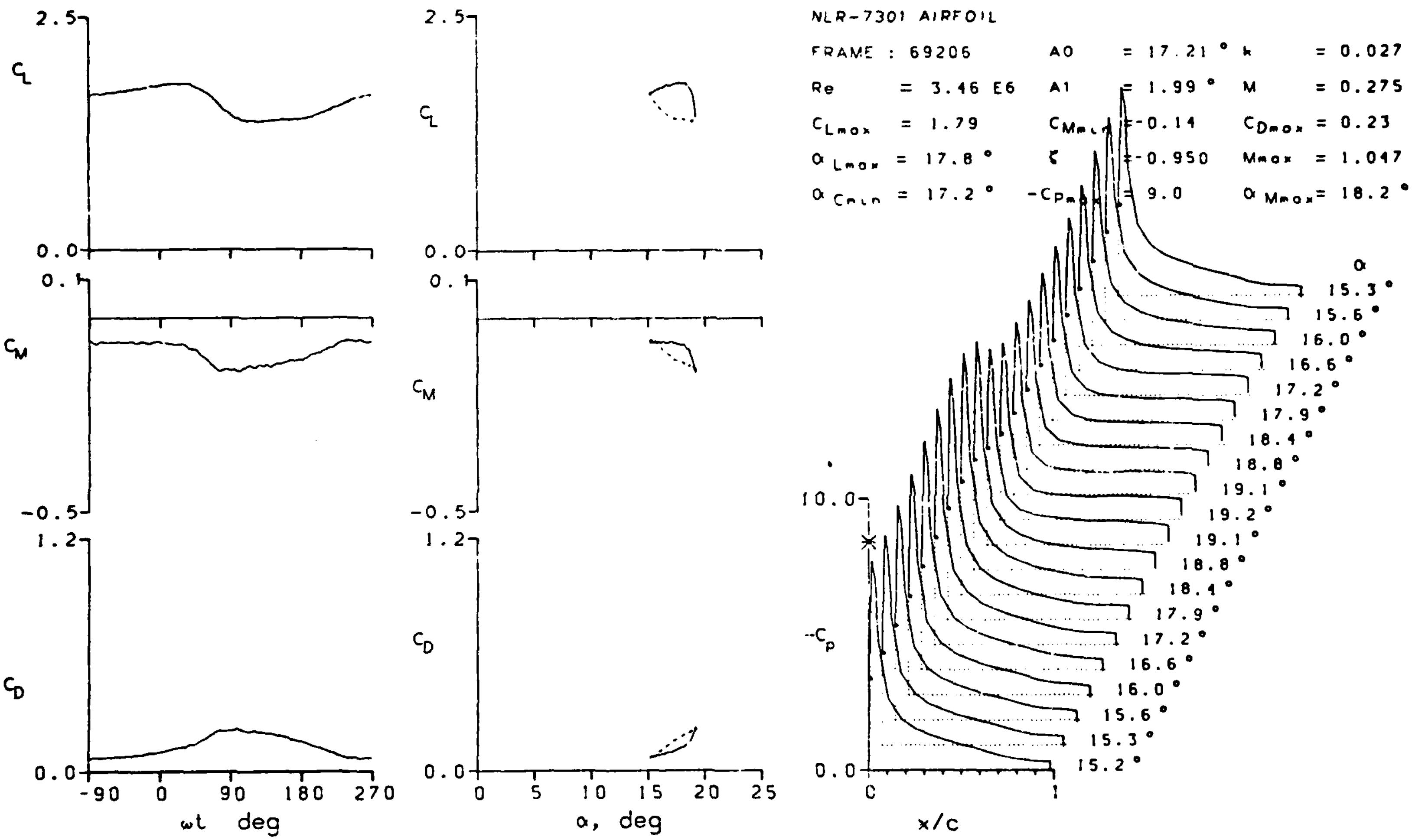

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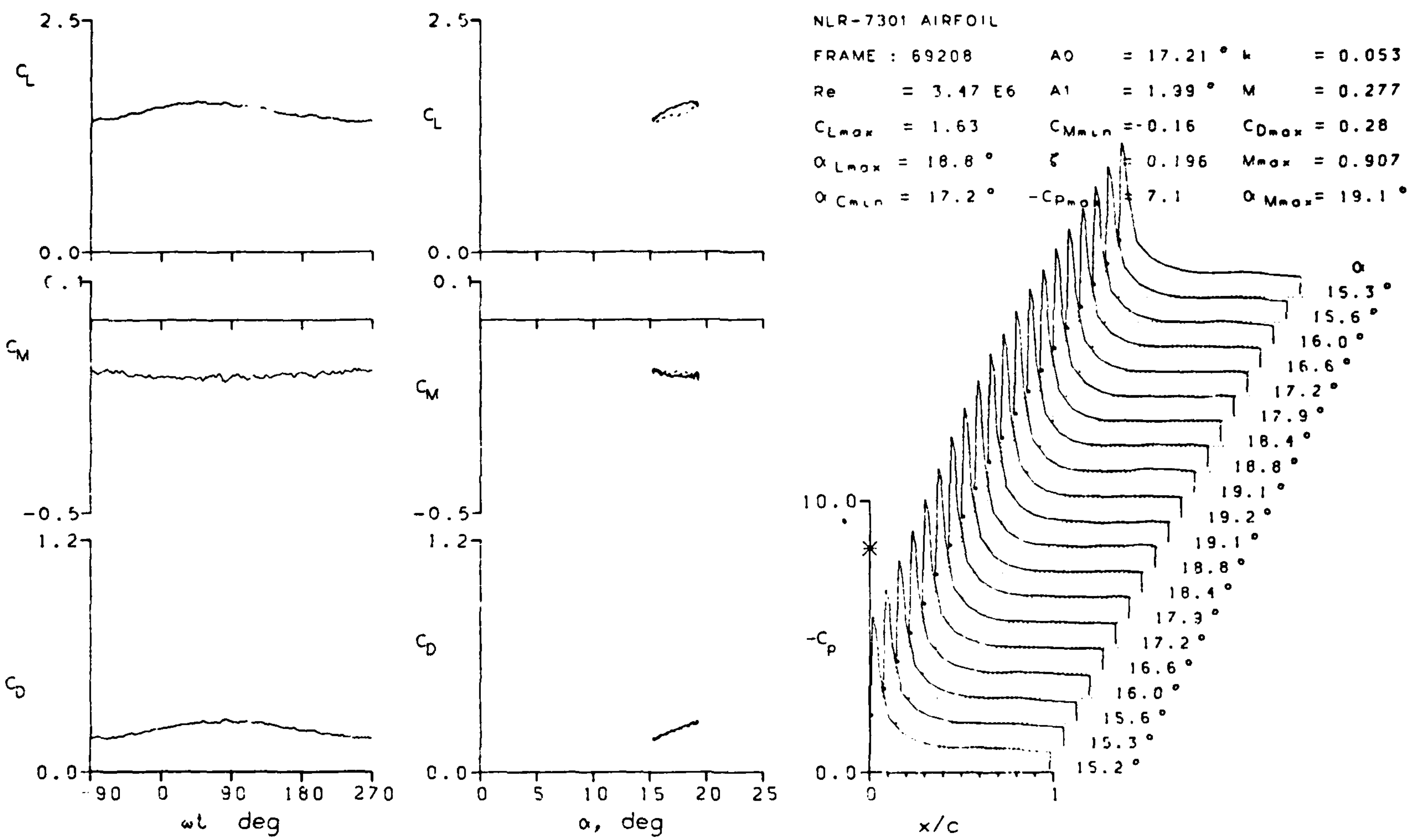

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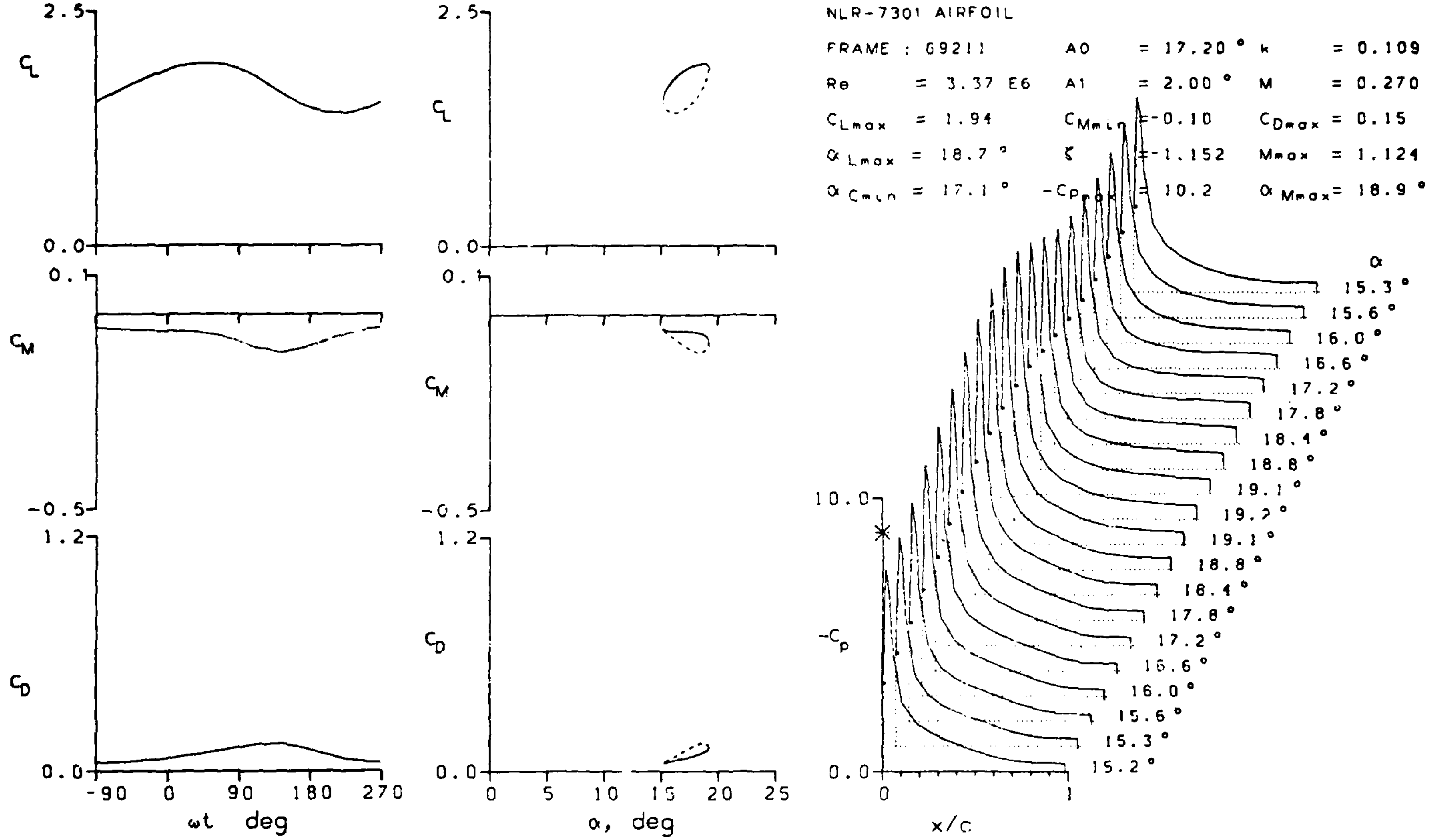

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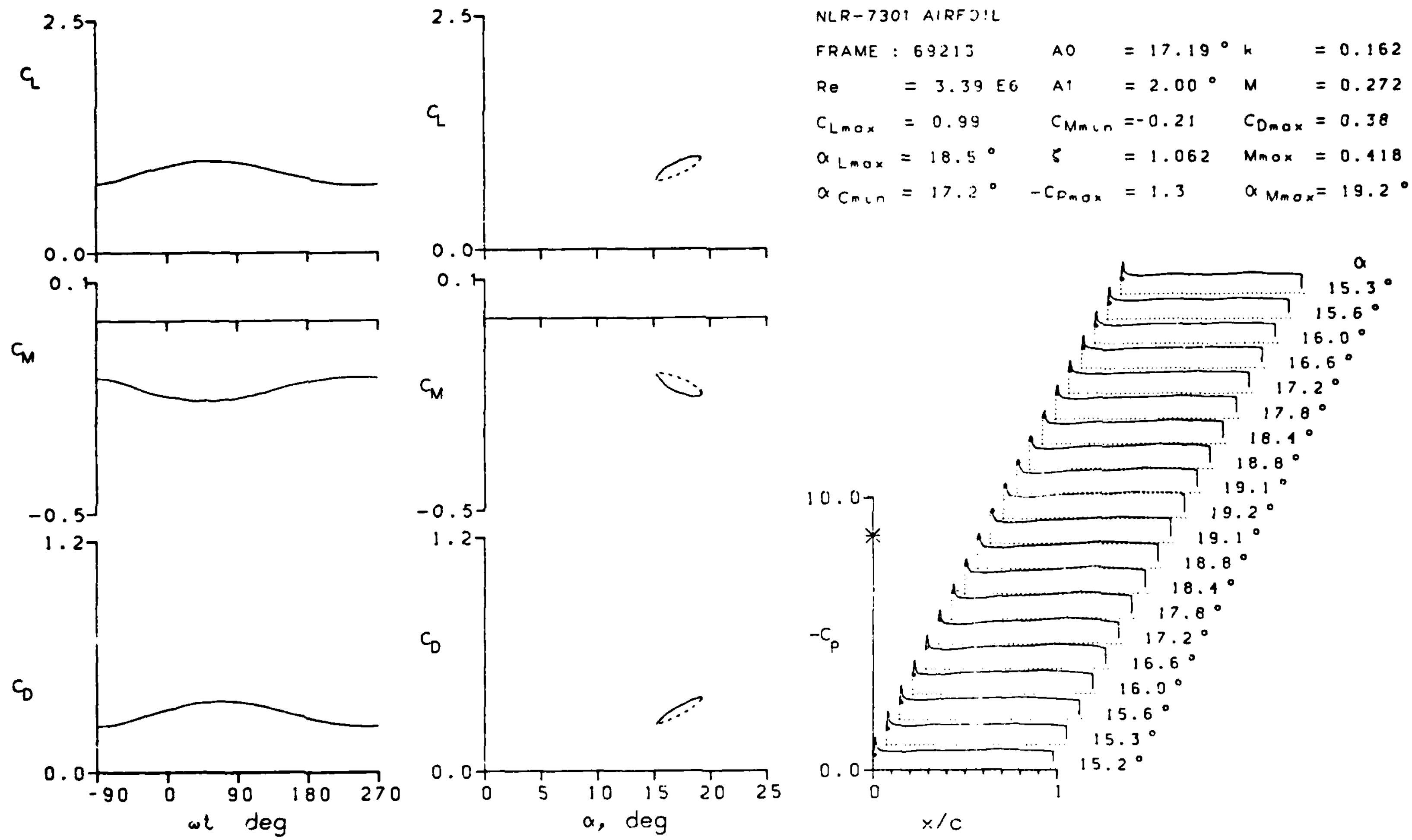

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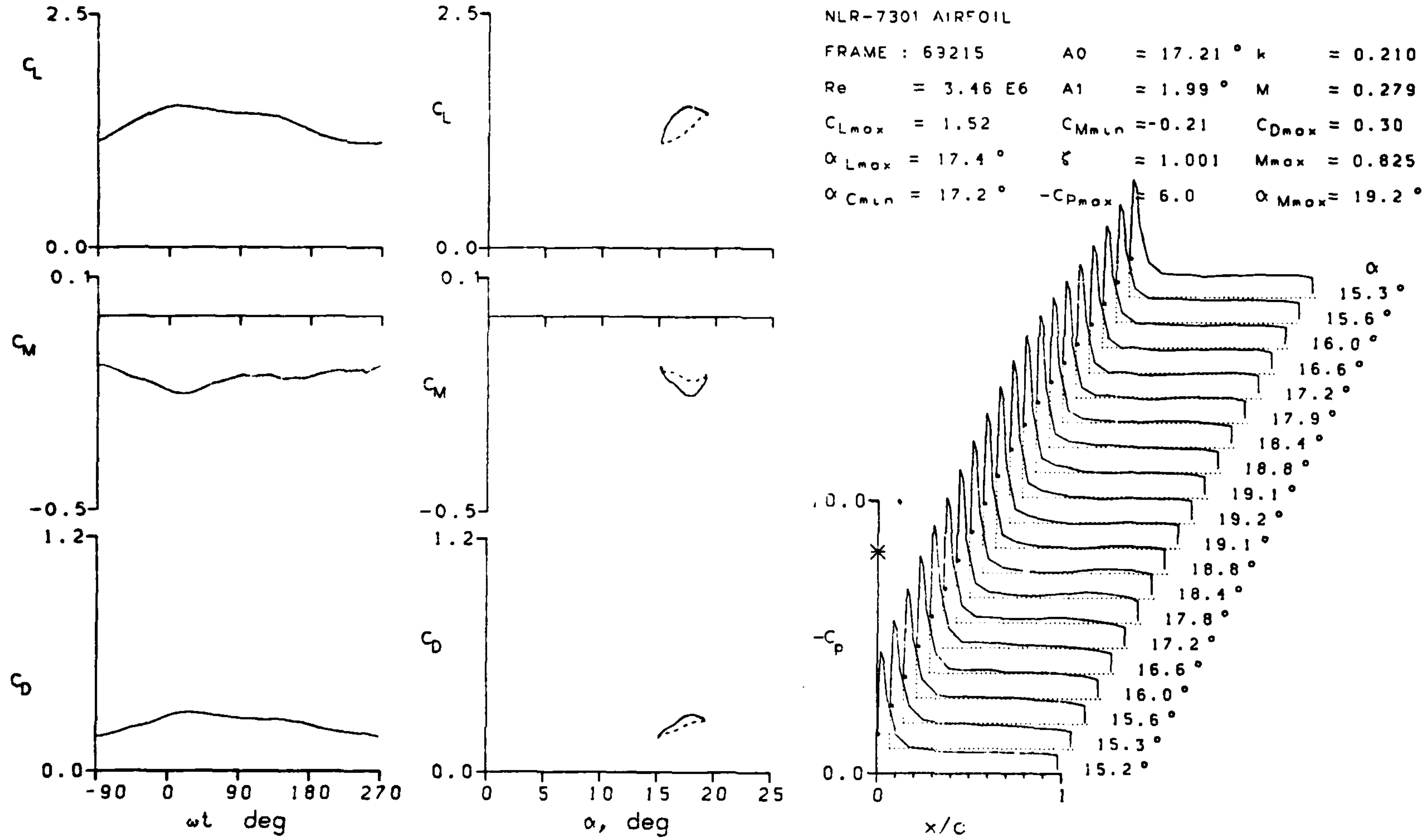

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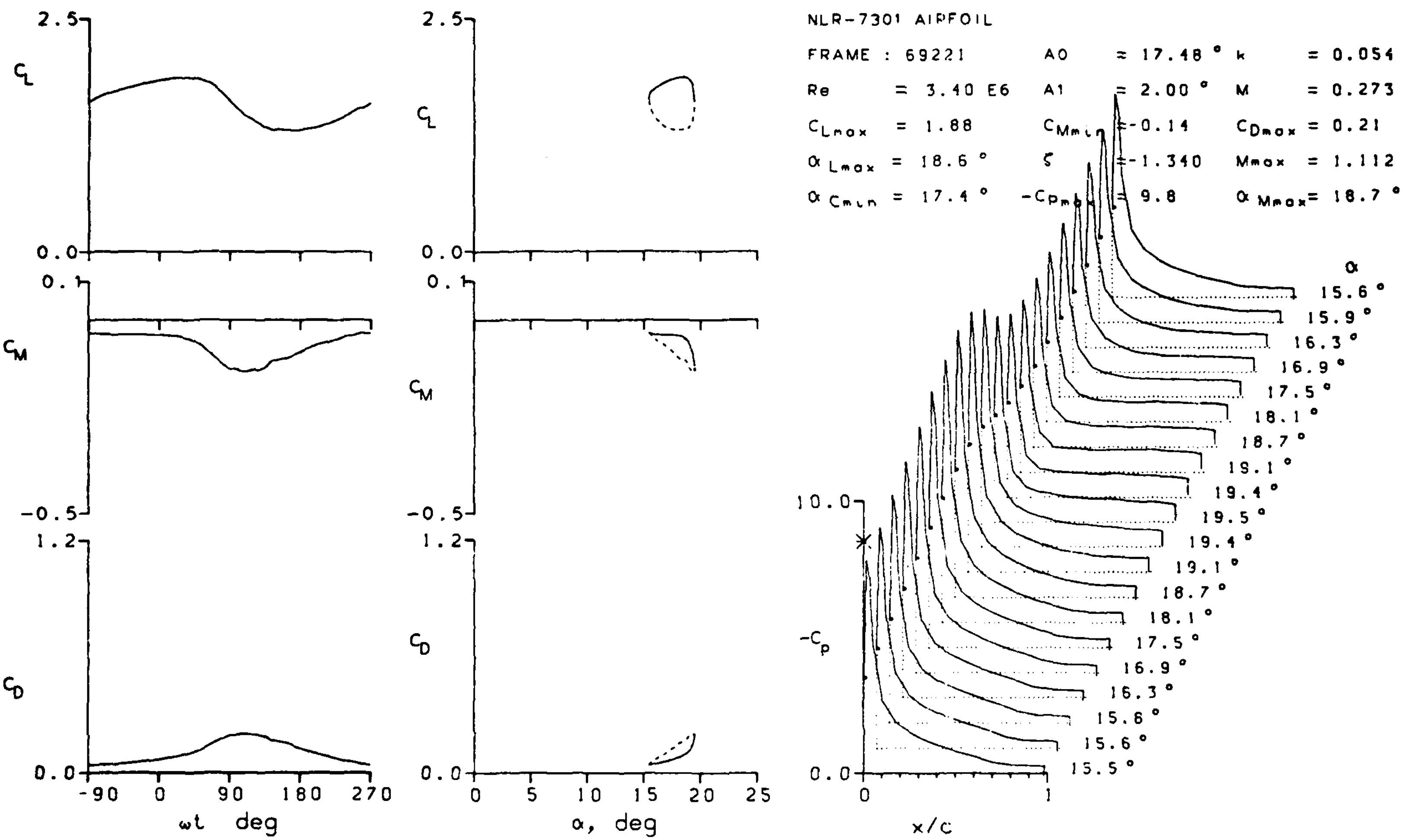

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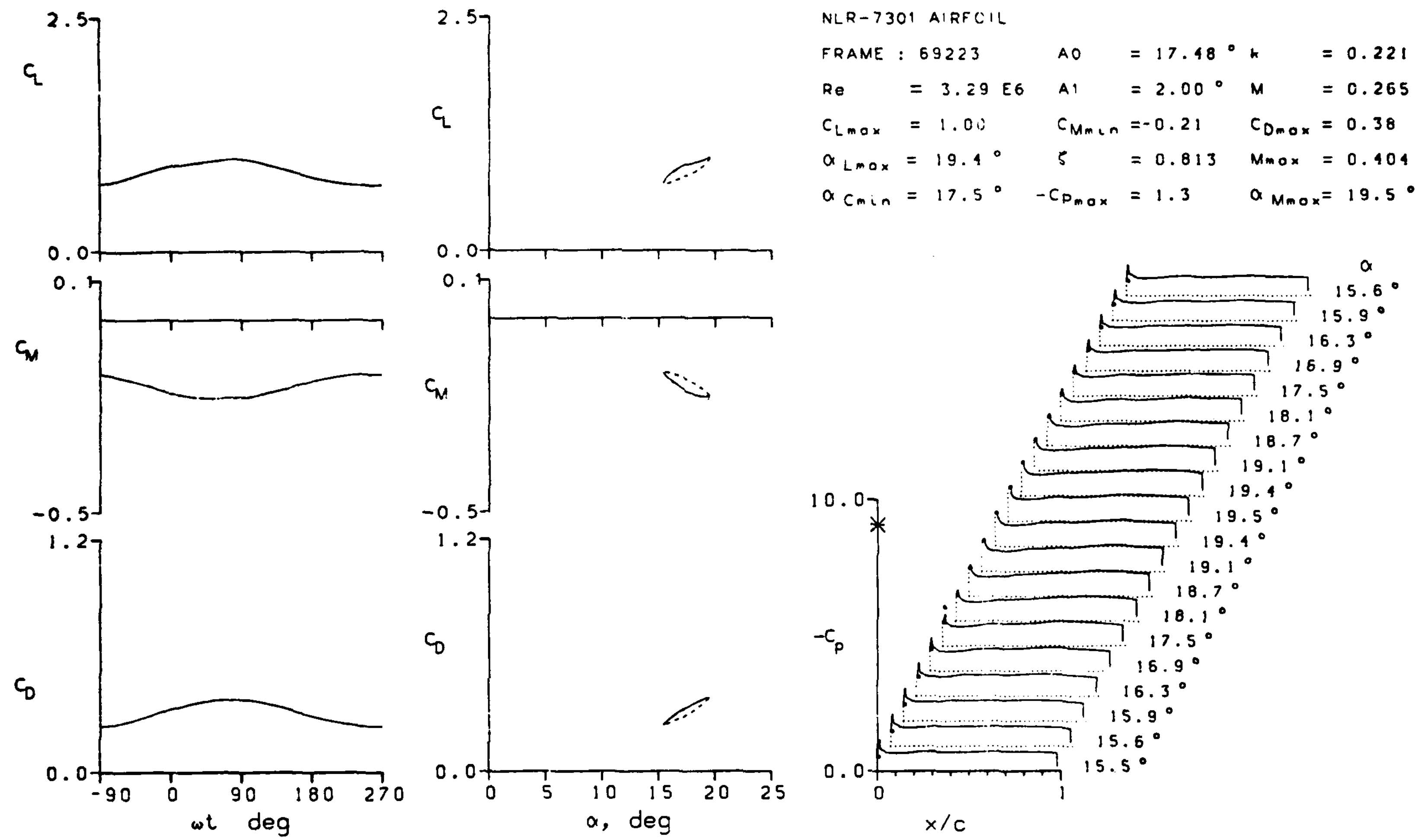

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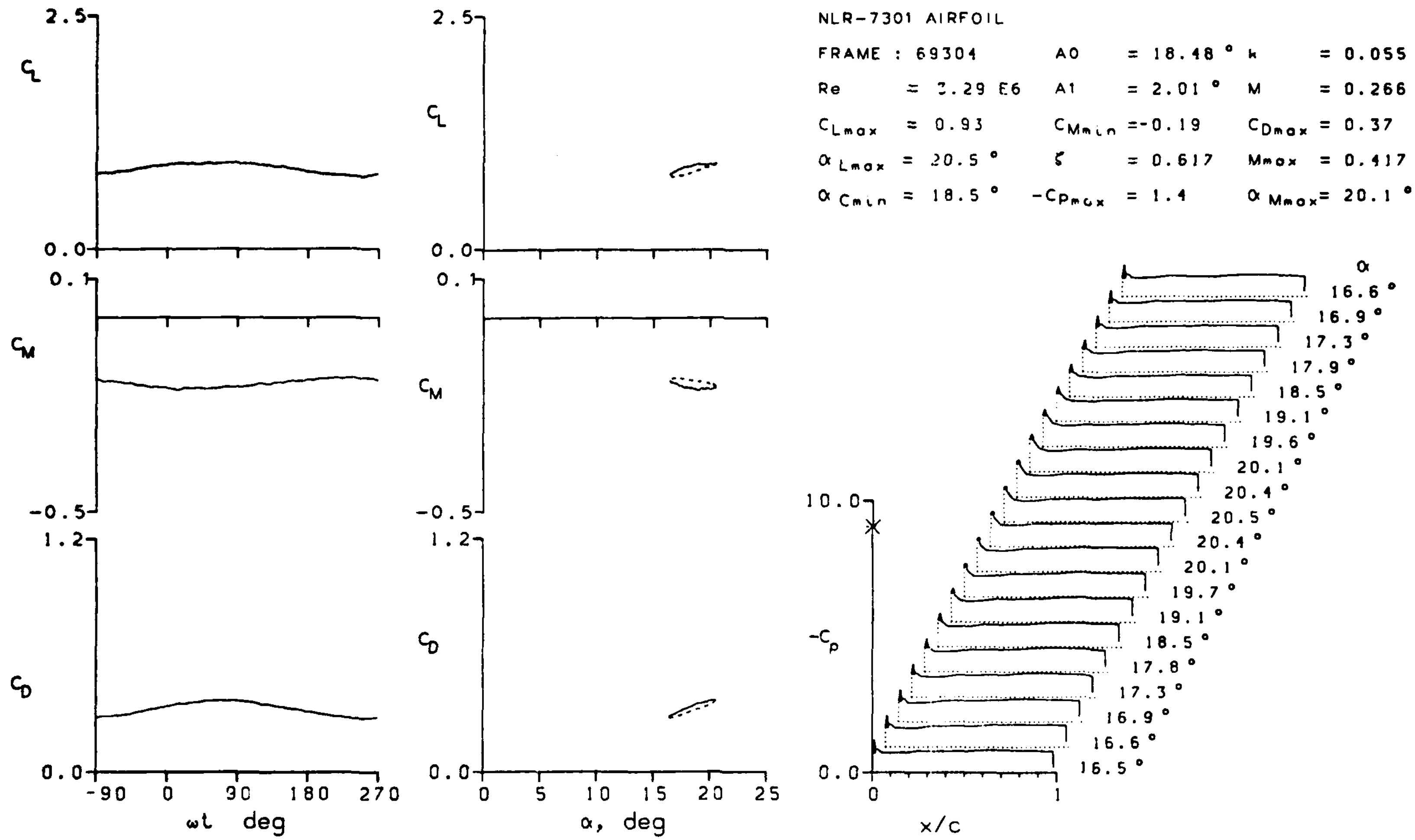

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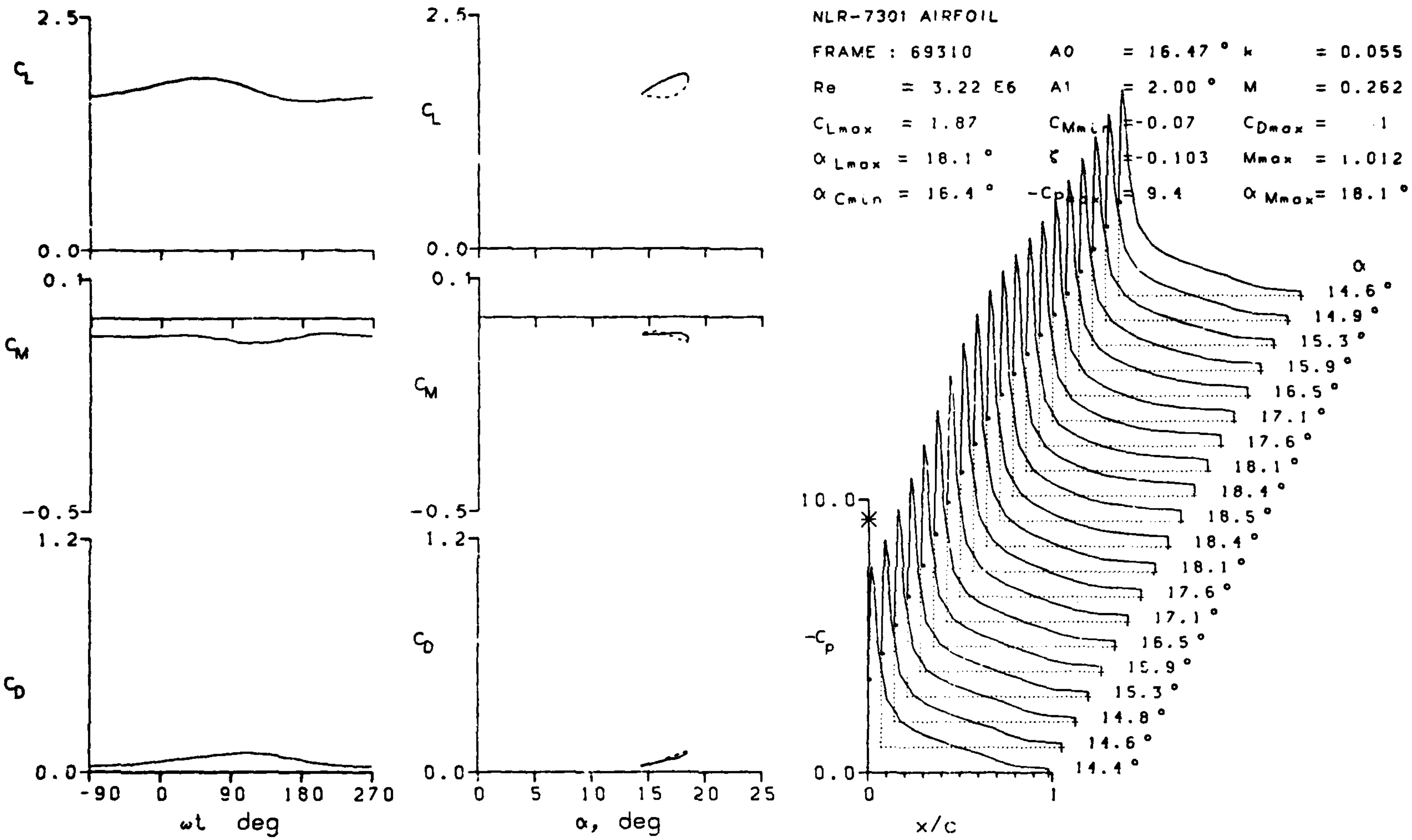

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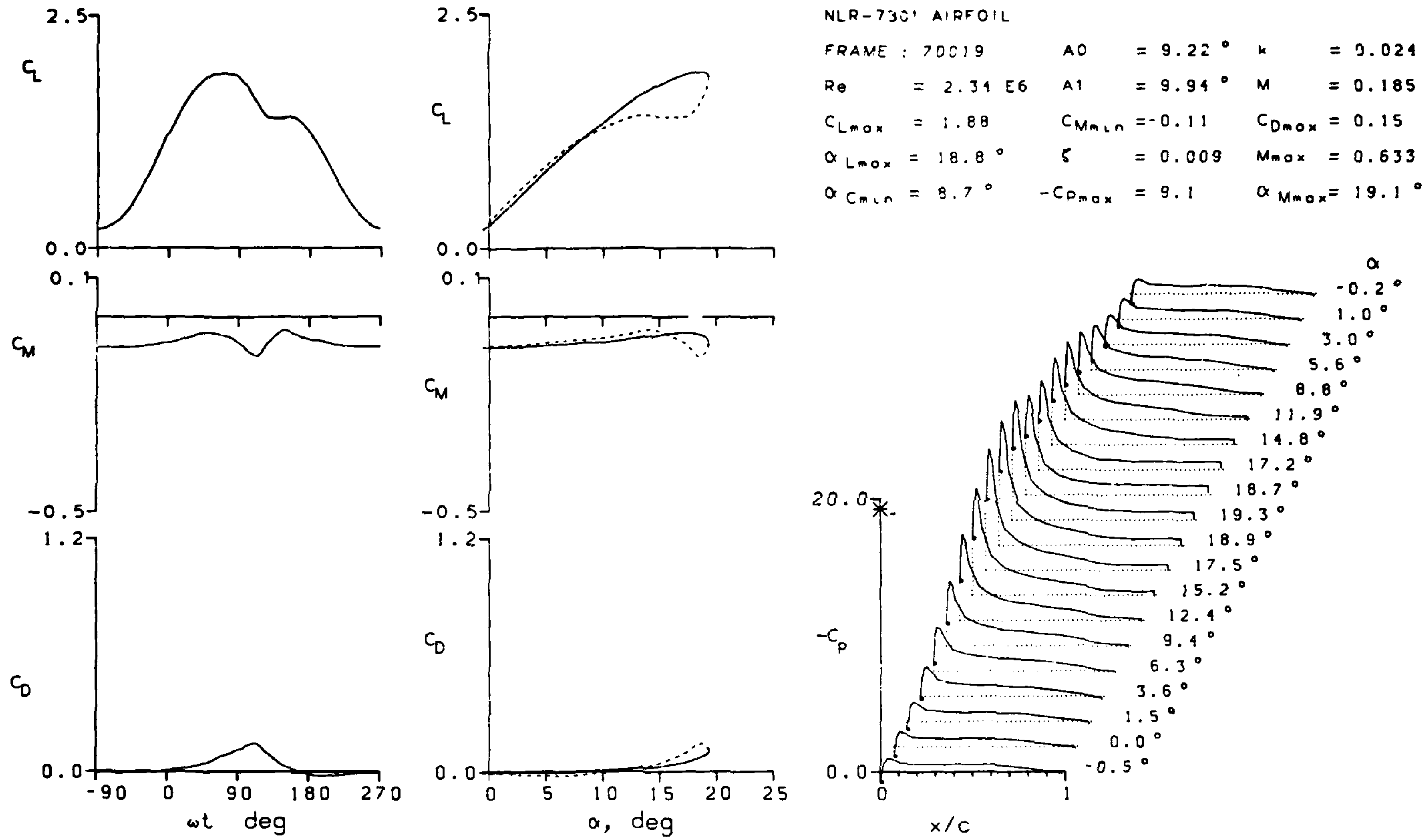

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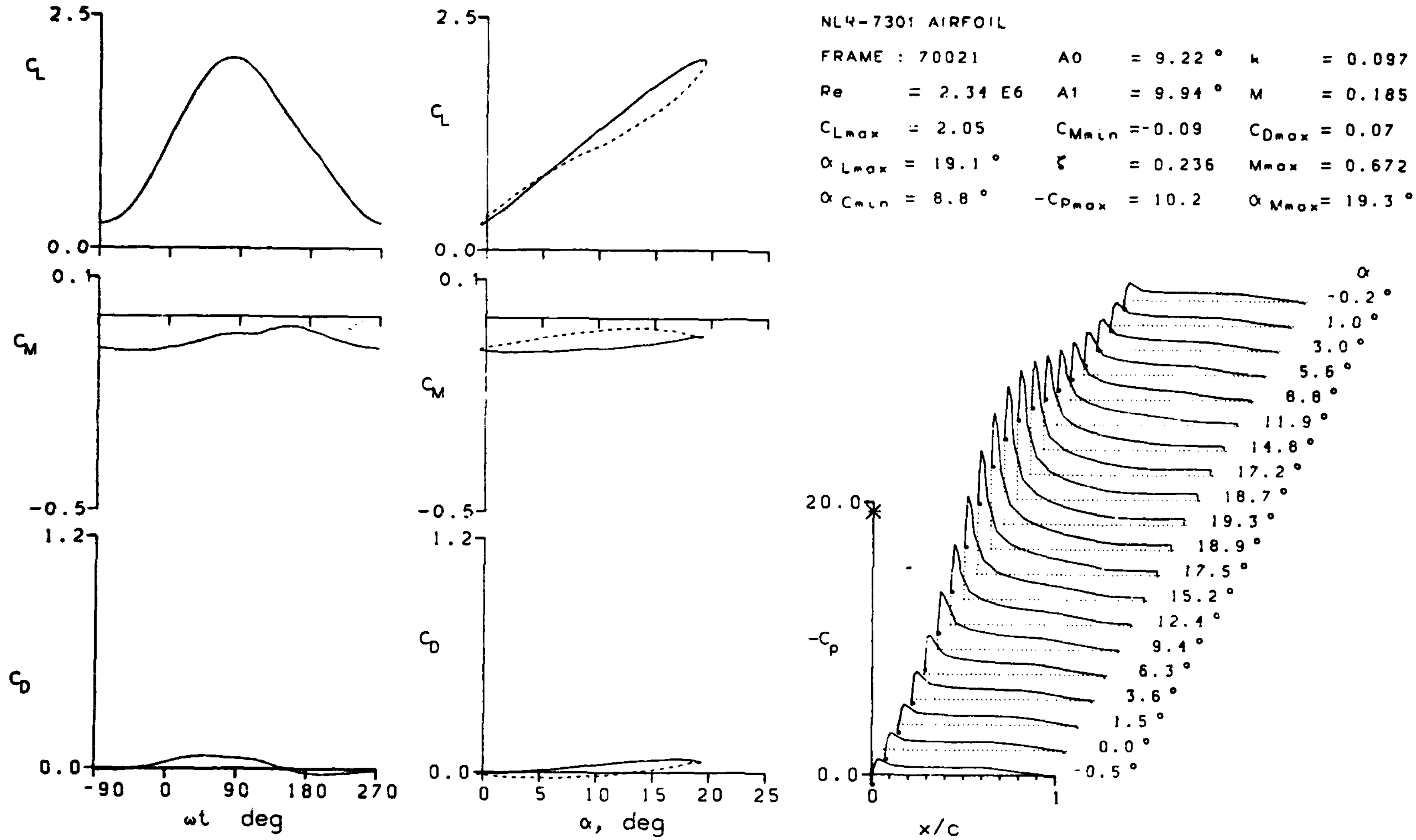

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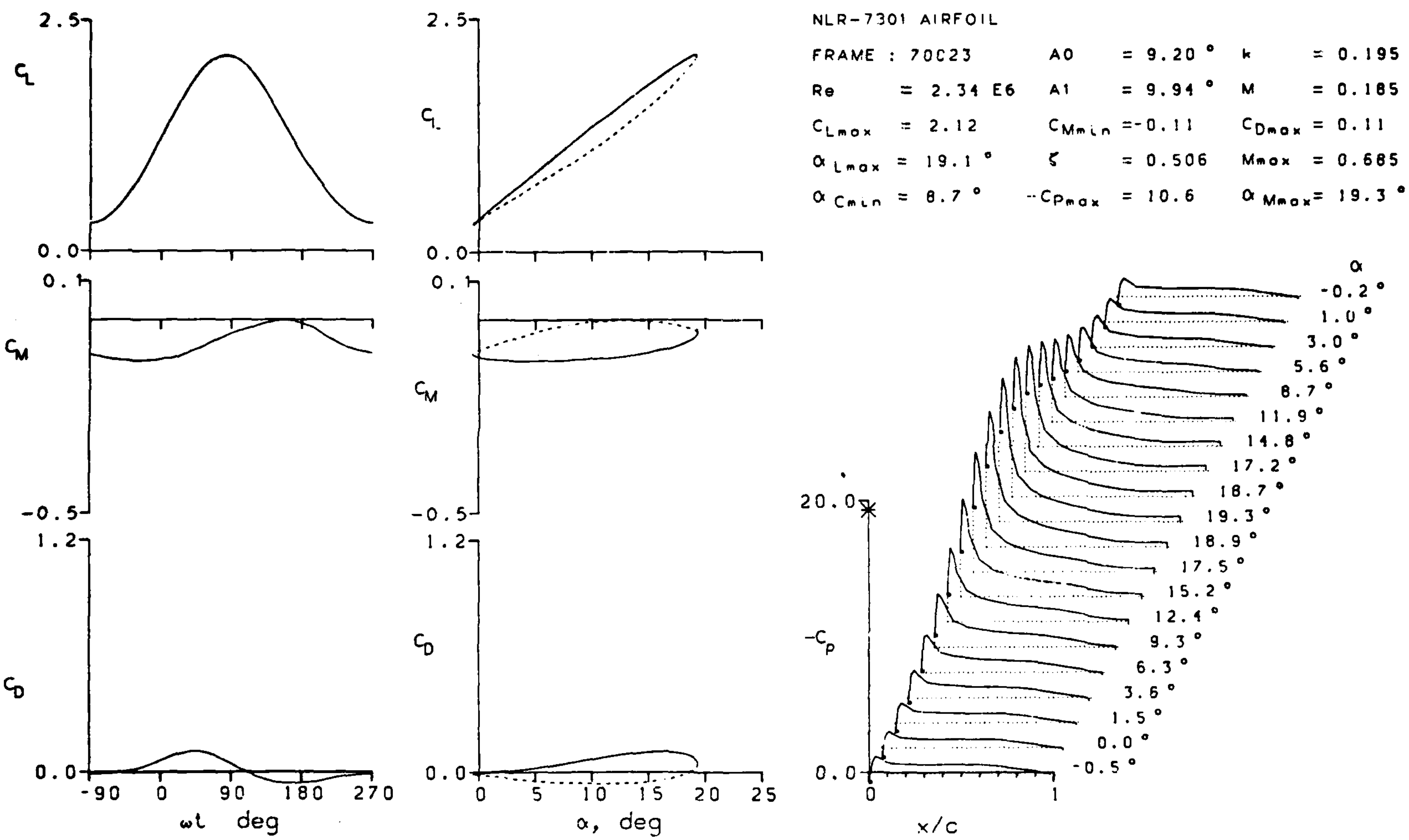

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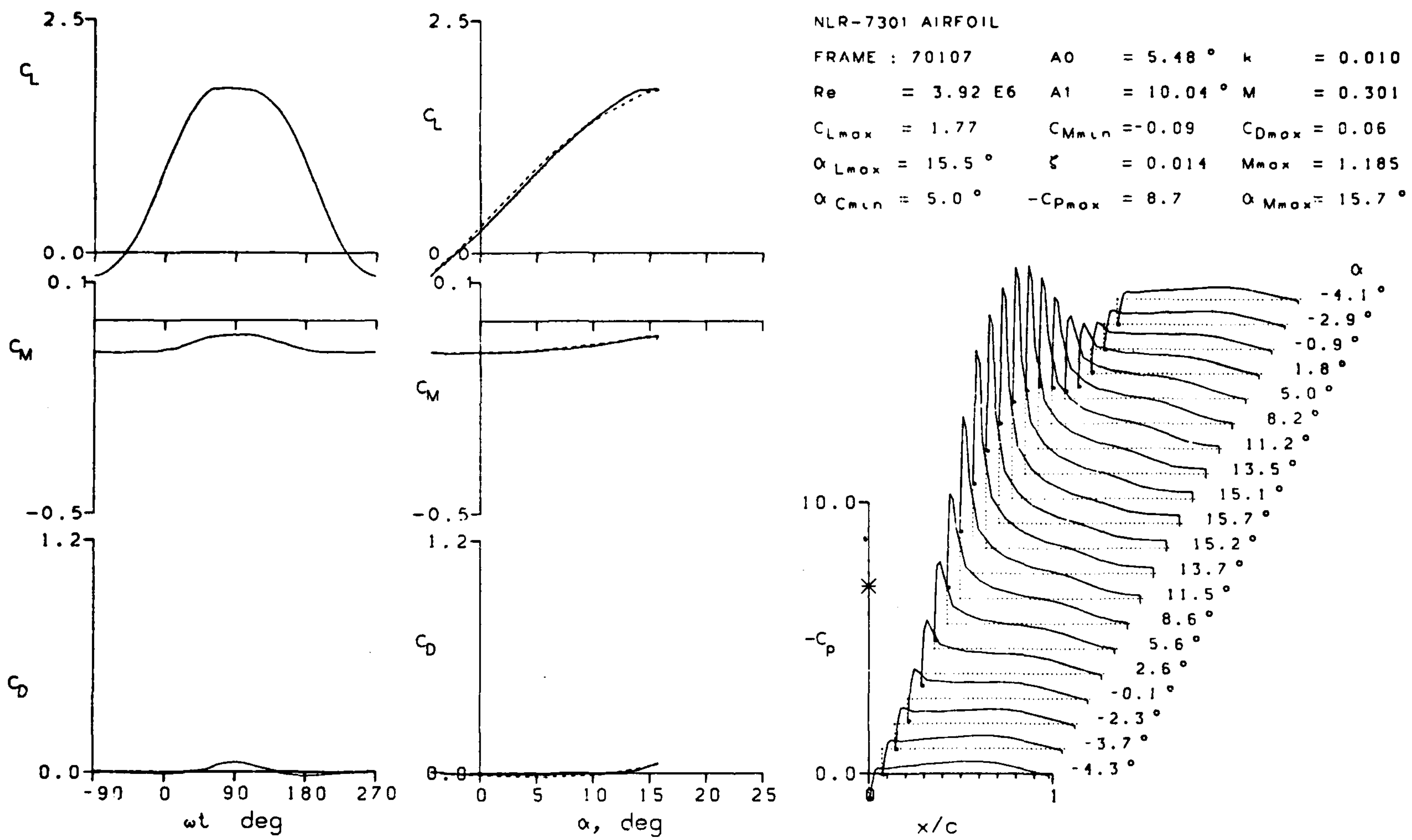

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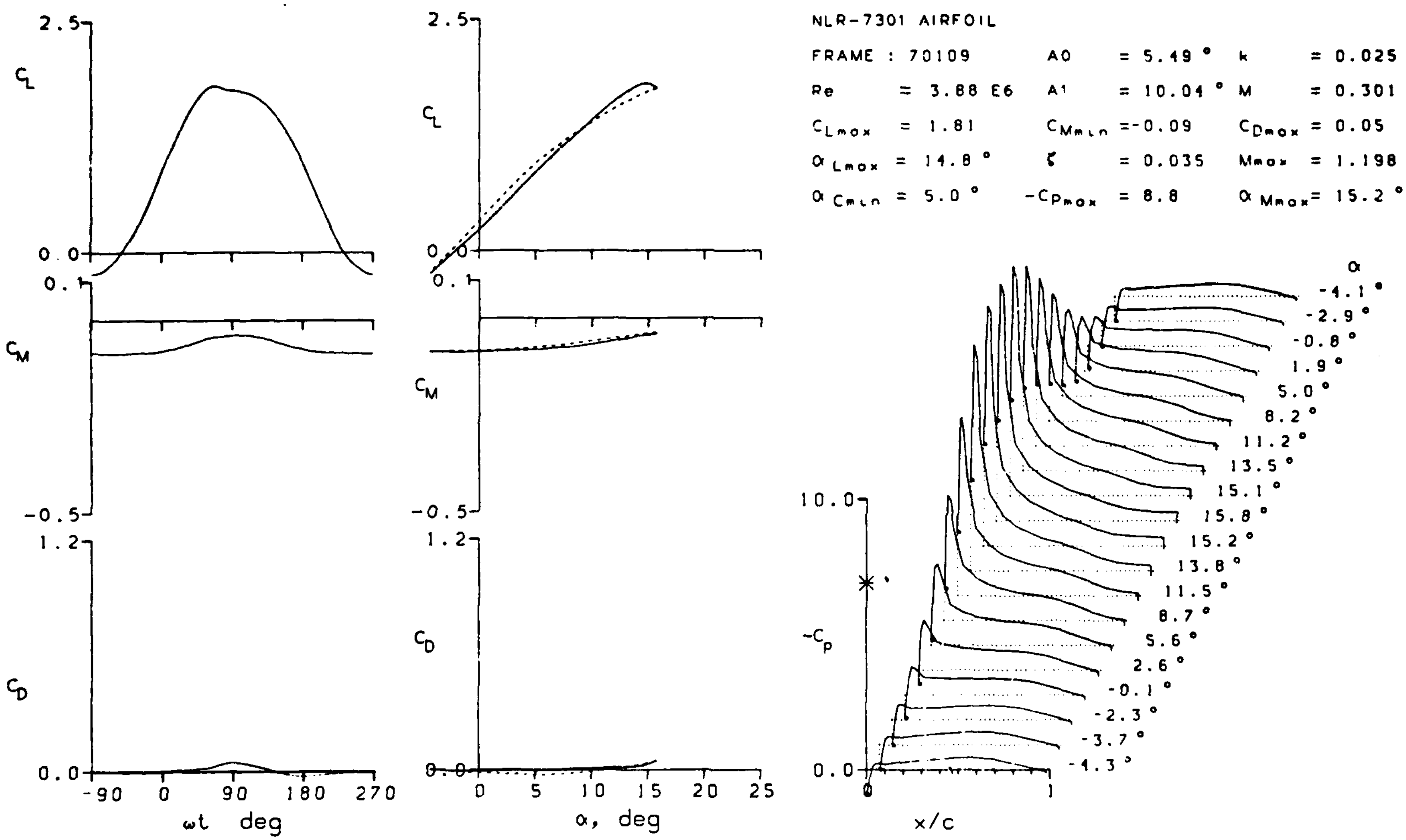

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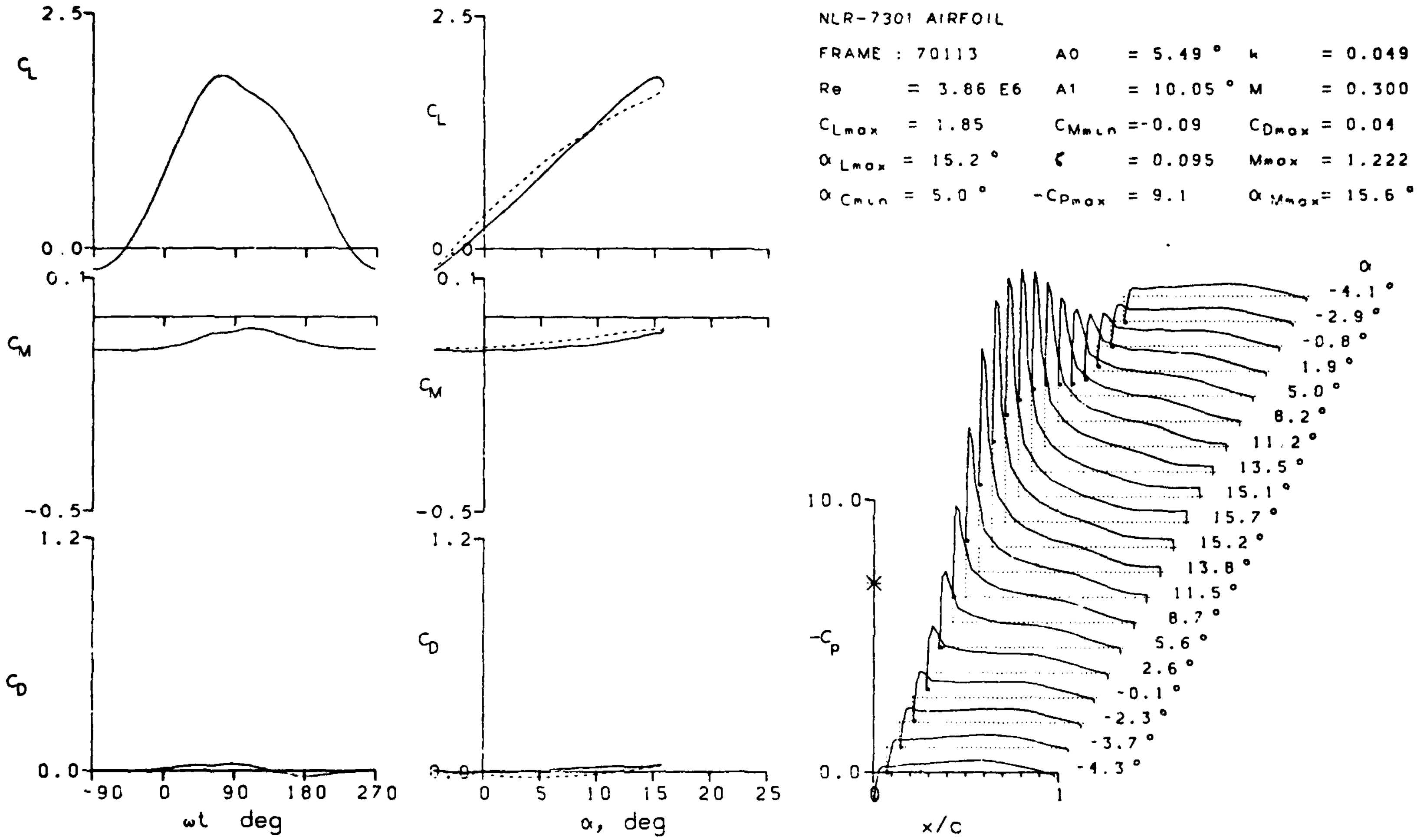

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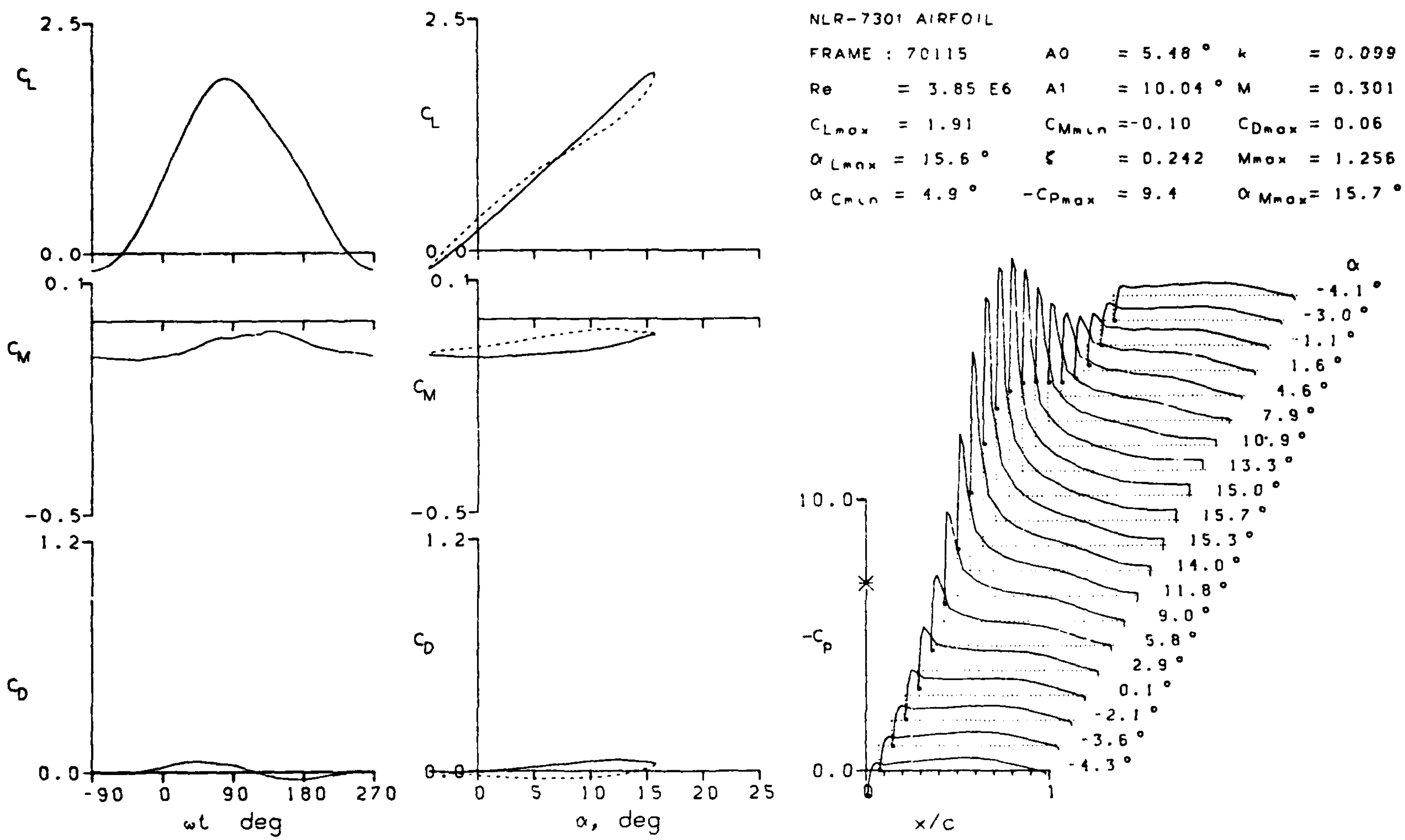

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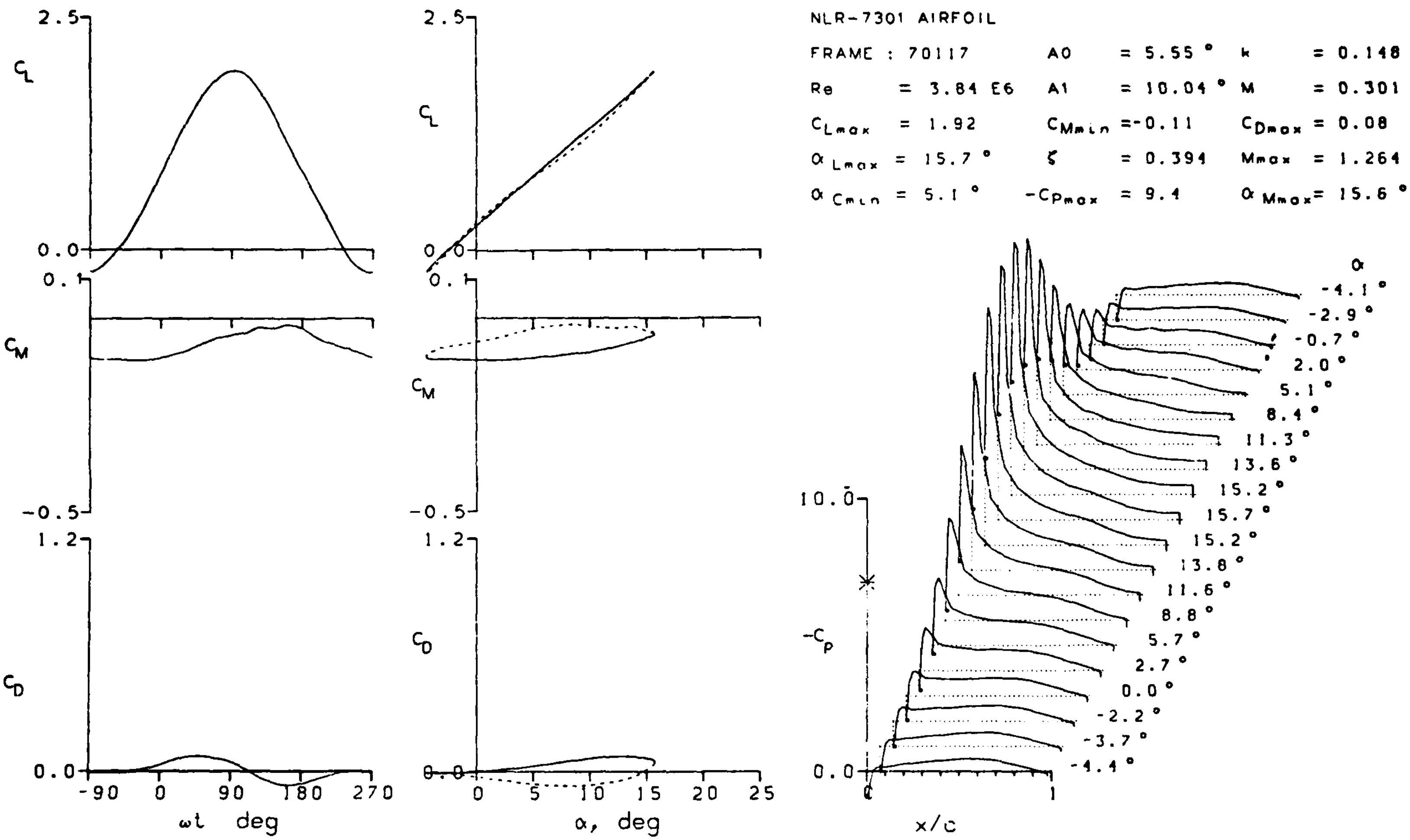

Figure 19.- Concluded.

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15. Supplementary Notes
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Moffett Field, CA 94035, (415) 965-5892 or FTS 448-5892

16. Abstract

Experimentally derived force and moment data are presented for eight airfoil sections that were tested at fixed and varying incidence in a subsonic two-dimensional stream. Airfoil incidence was varied through sinusoidal oscillations in pitch over a wide range of amplitude and frequency. The surface pressure distribution, as well as the lift, drag, and pitching moment derived therefrom, are displayed in a uniform fashion to delineate the static and dynamic characteristics of each airfoil both in and out of stall.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
Dynamic stall, Maximum lift, Oscillating airfoils, Airfoil data, Boundary layer measurements, Unsteady pressure distributions	Unlimited Subject Category - 02

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